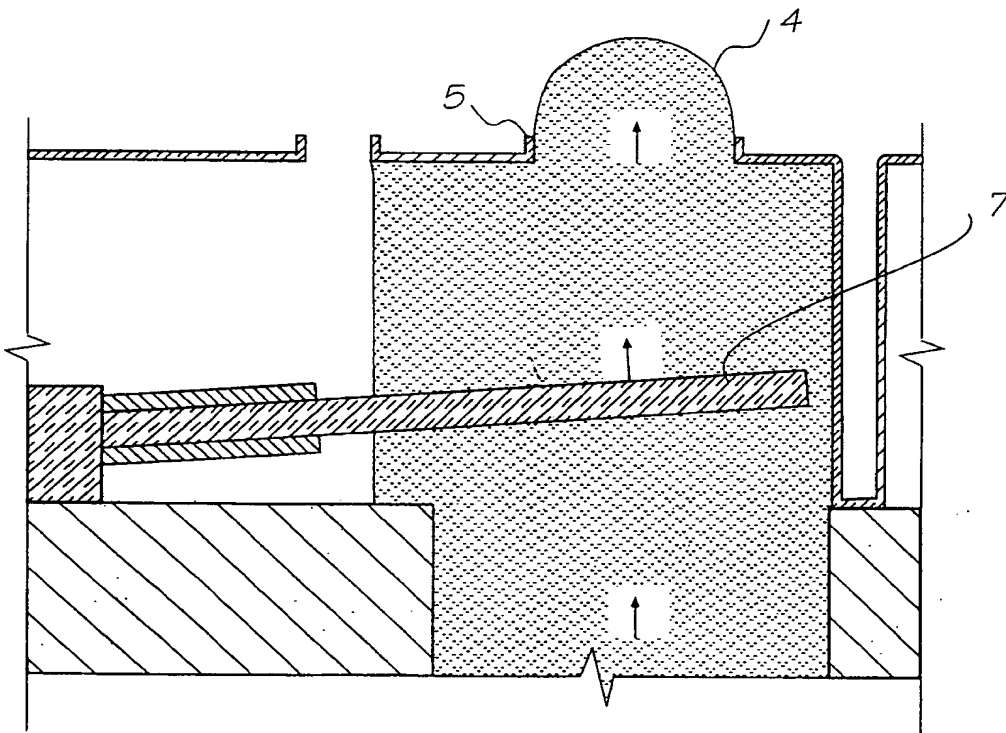
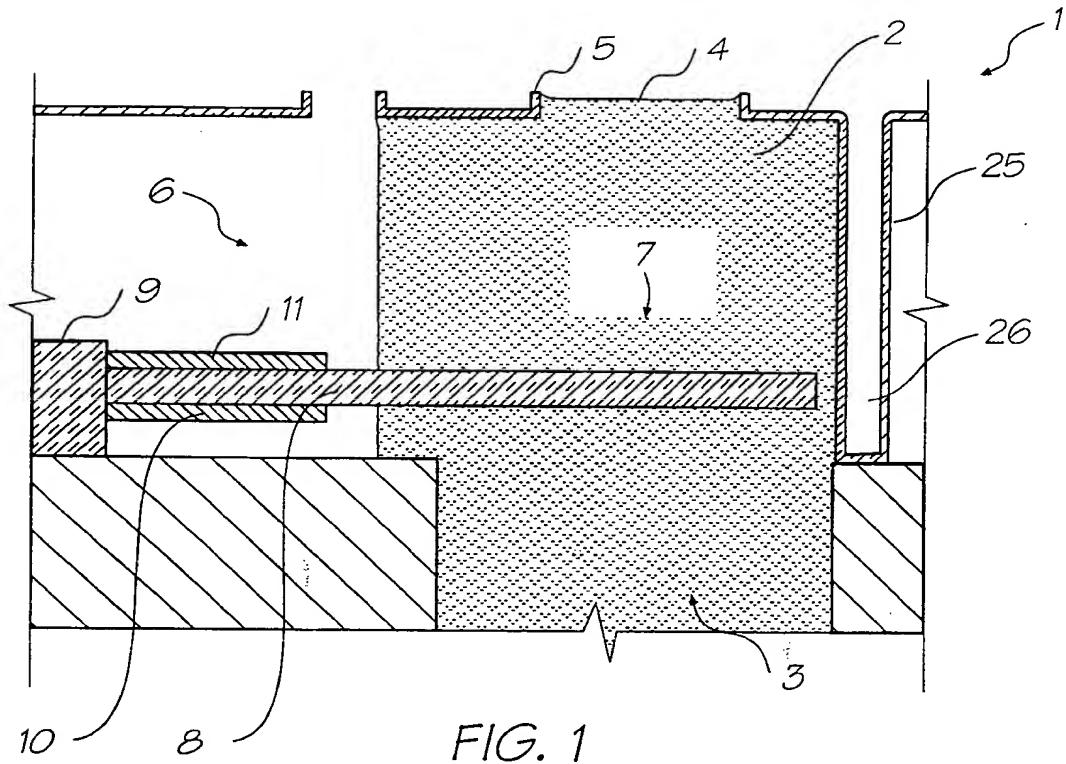


APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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APPROVED: O.G. FIG.
CLASS: SUBCLASS
BY
DRAFTSMAN

FIG. 3

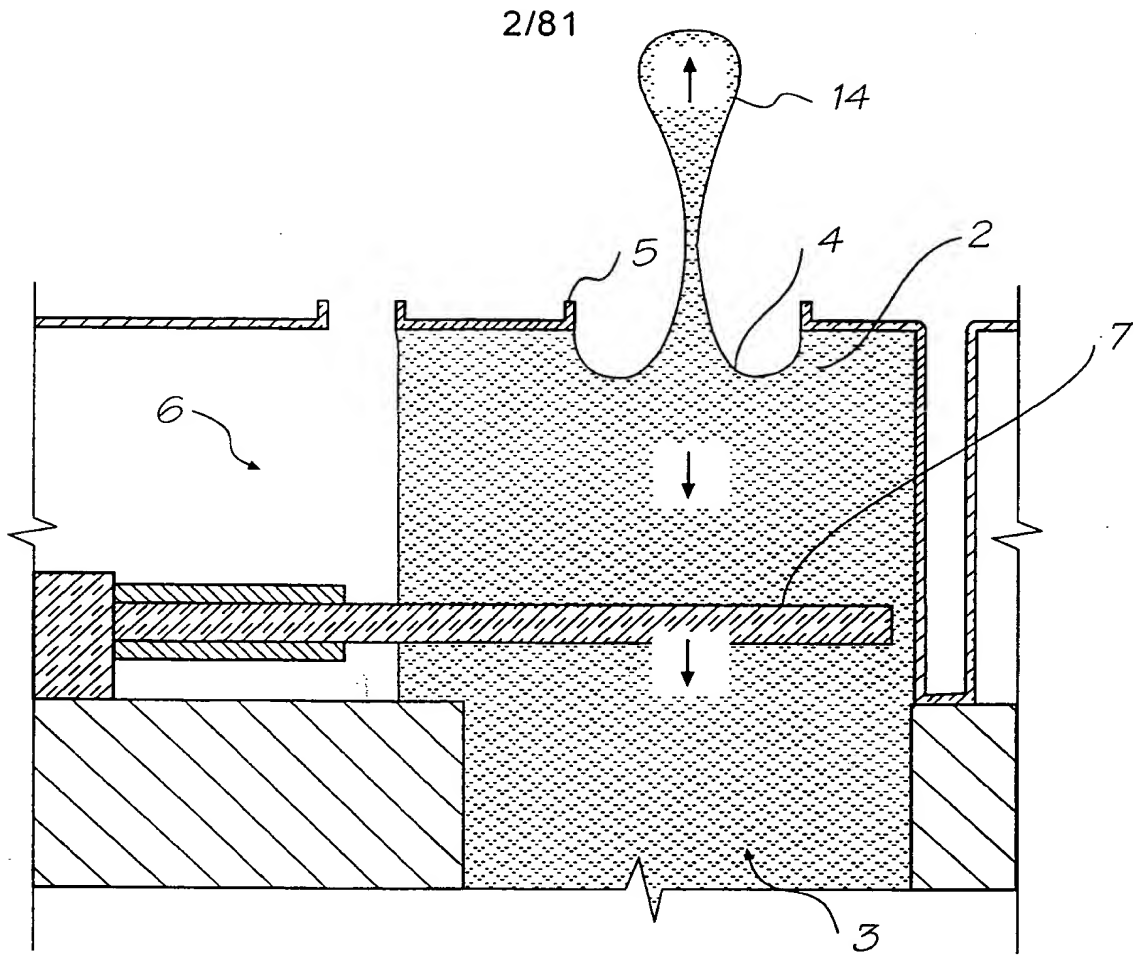


FIG. 3

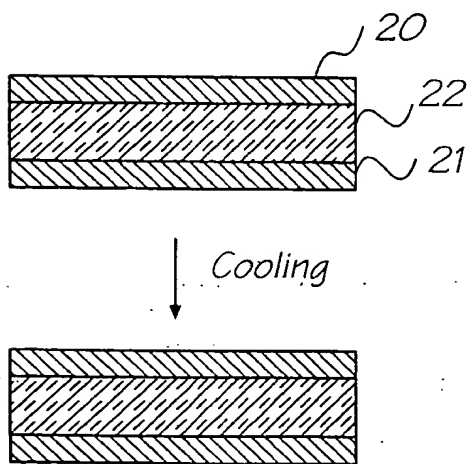


FIG. 4

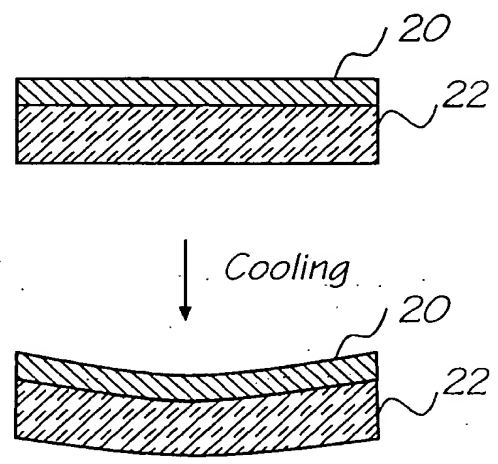


FIG. 5

APPROVED	C.C.F.C.
BY	CLASS/SUBCLASS
DRAFTSMAN	

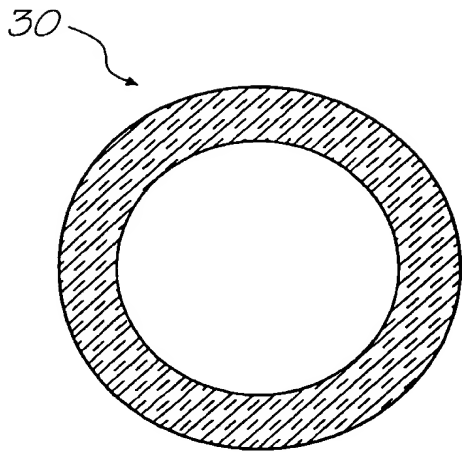


FIG. 6

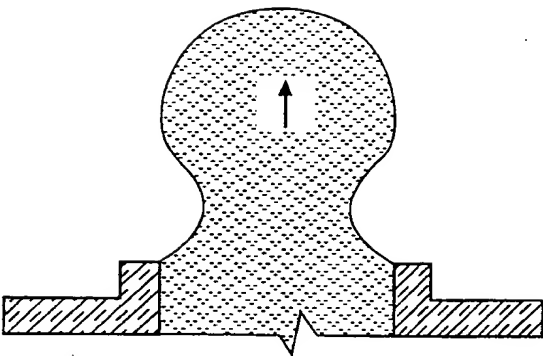


FIG. 7

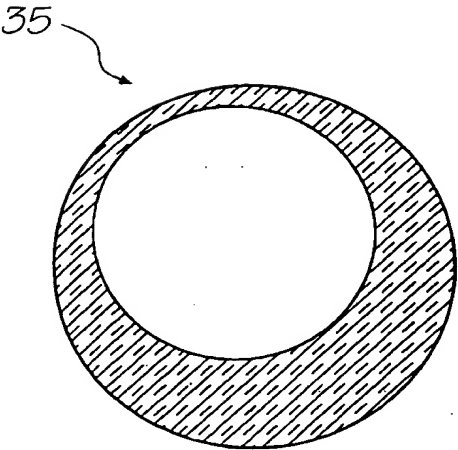


FIG. 8

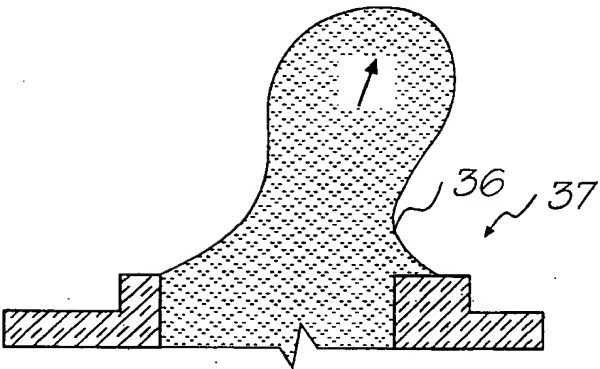


FIG. 9

T01E20" 262700894

FIG. 10

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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PCT/AU99/00894

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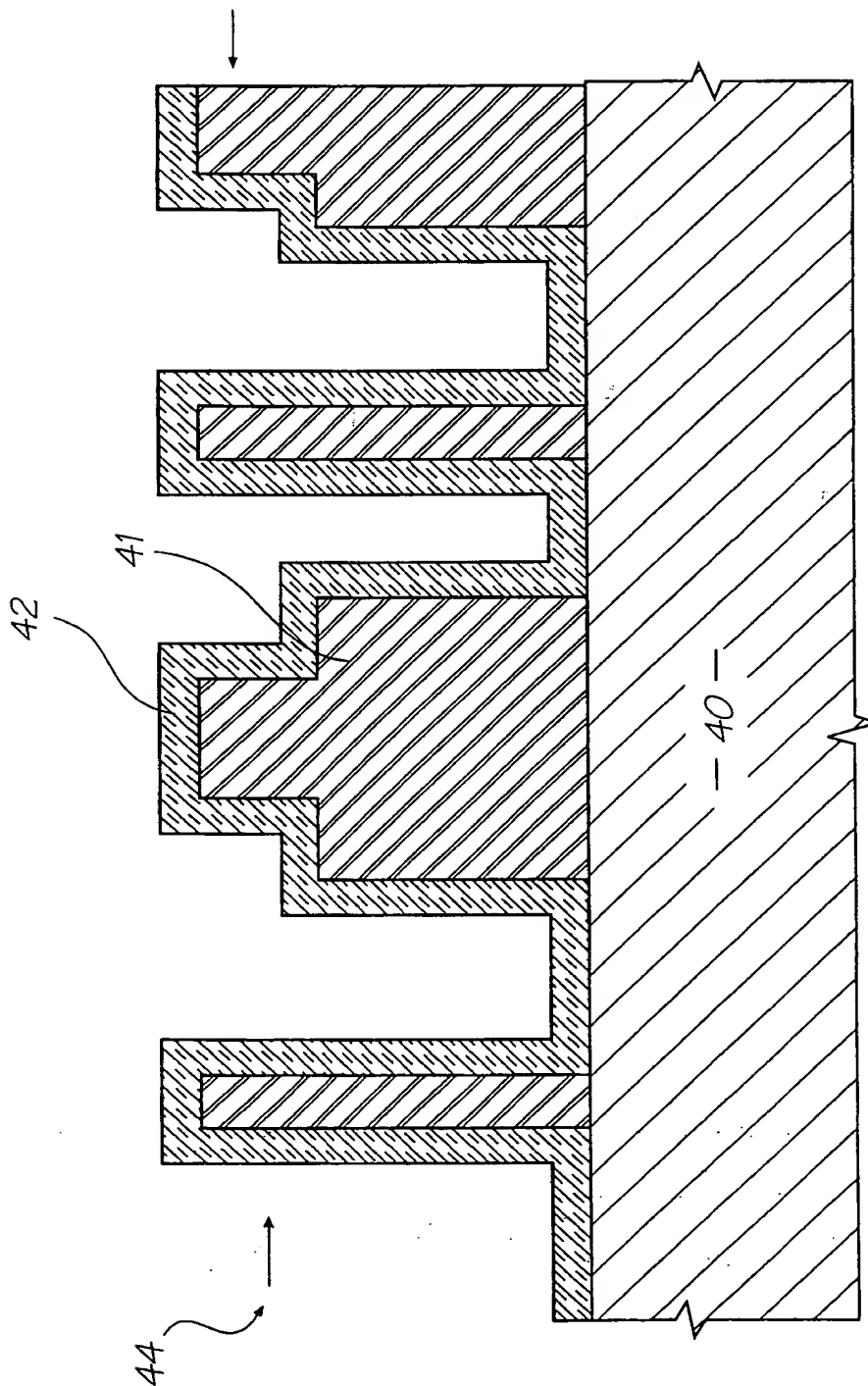


FIG. 10

APPROVED	O.G. FIG.
	CLASS/SUBCLASS
BY	
DRAFTSMAN	

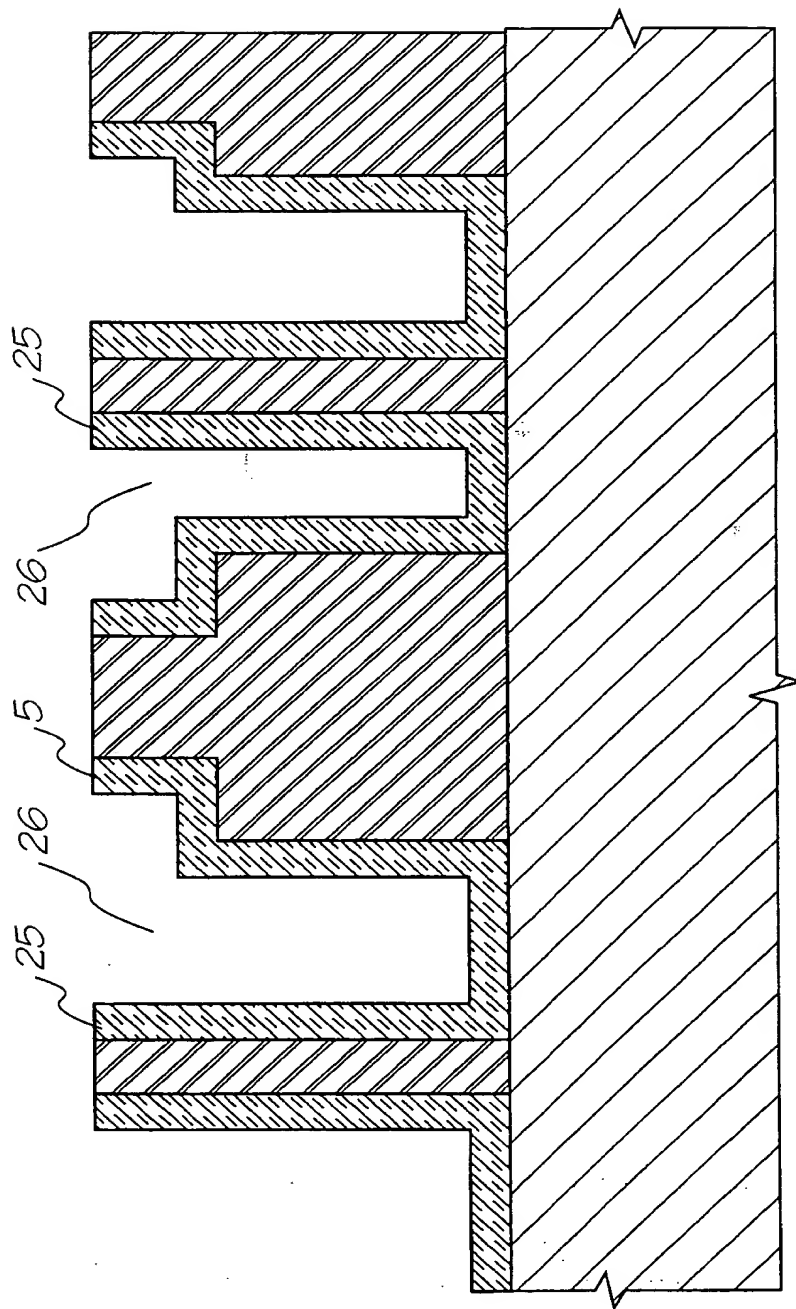


FIG. 11

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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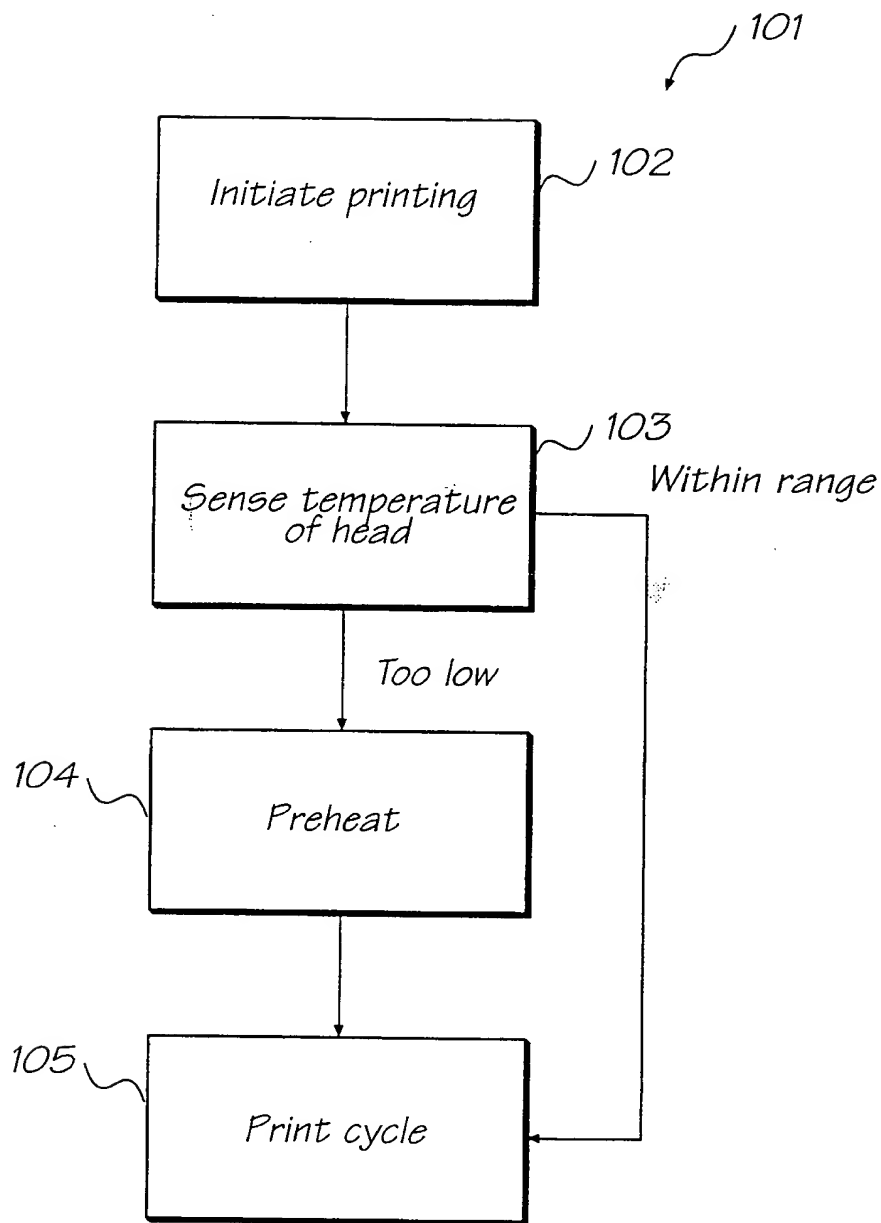


FIG. 12

TOTED 26240360

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

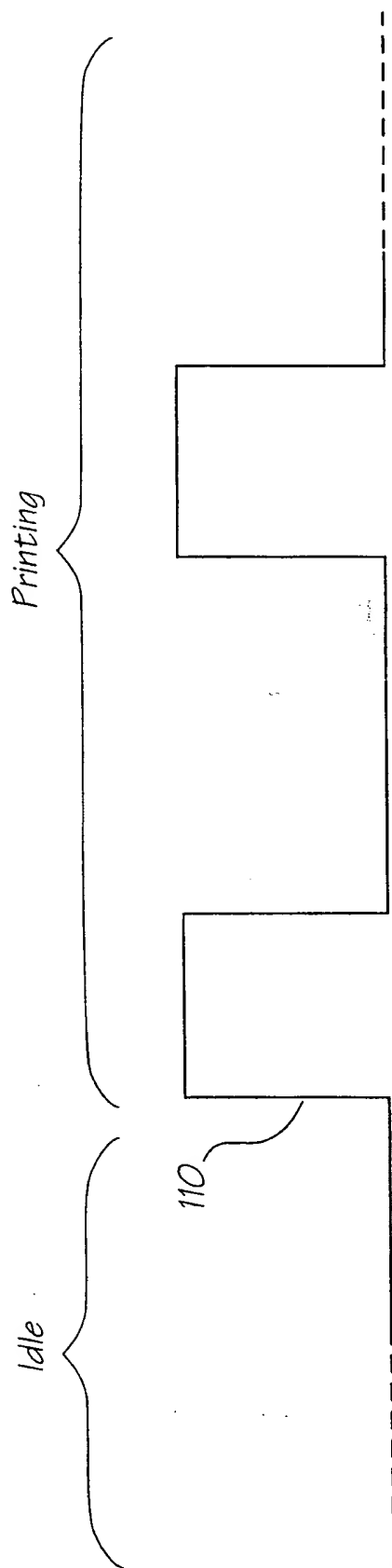


FIG. 13

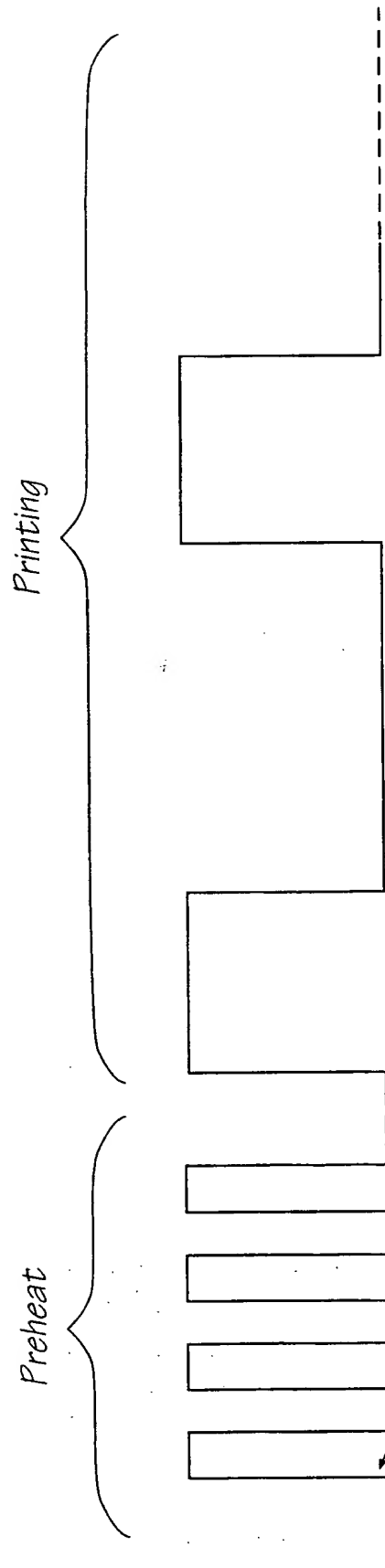


FIG. 14

FIG. 15

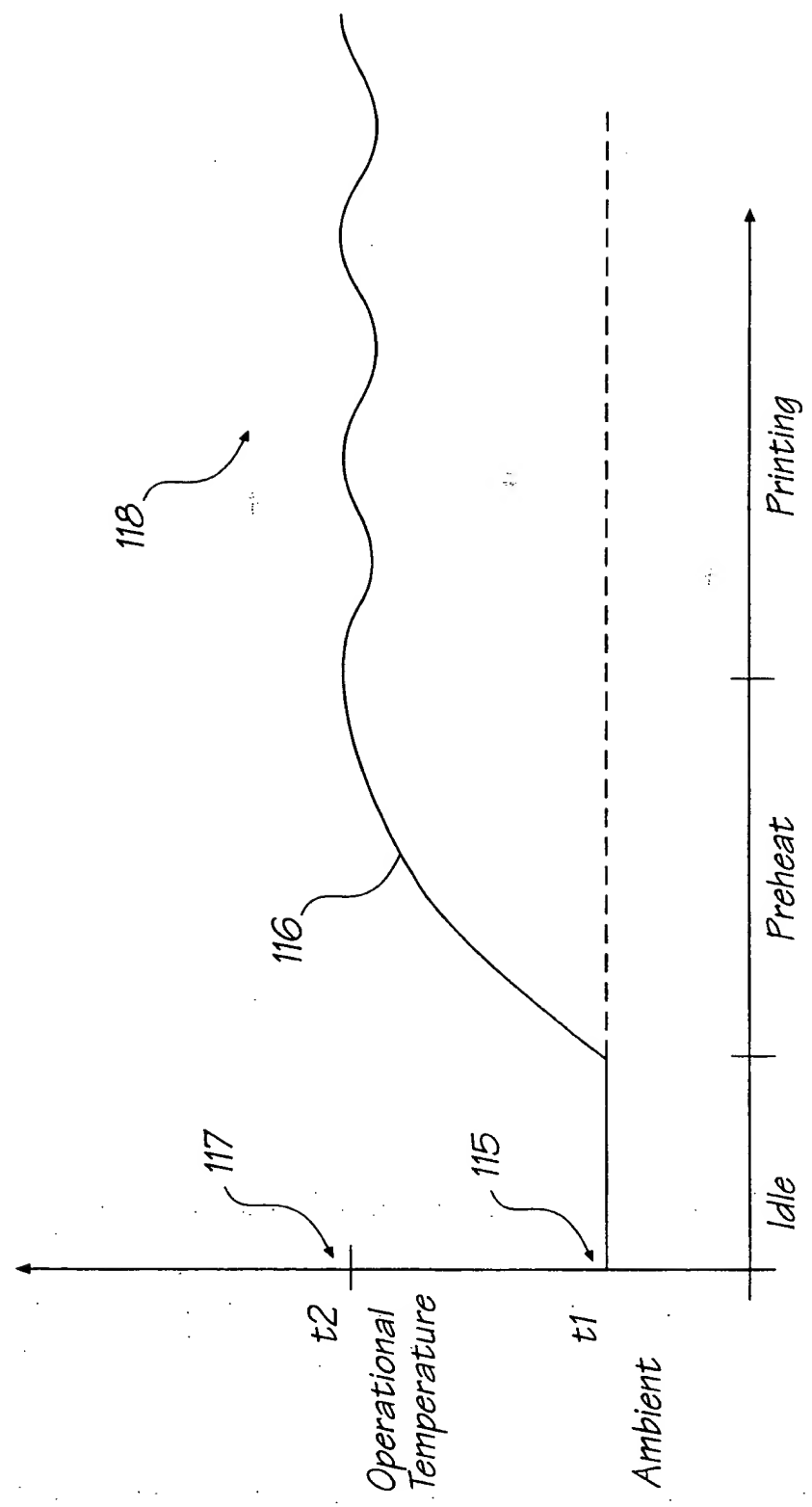


FIG. 15

FIG. 16

APPROVED	C.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

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PCT/AU99/00894

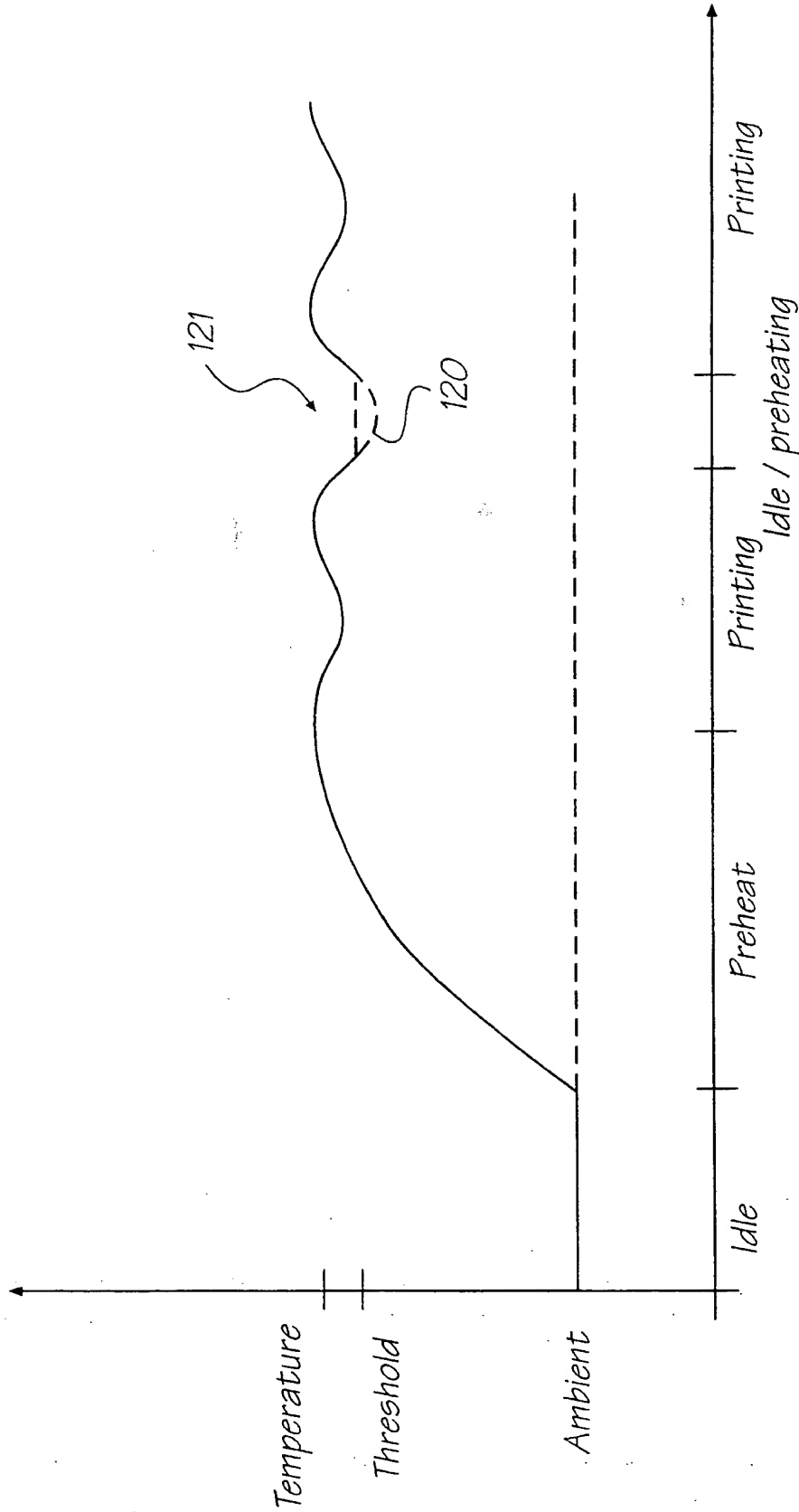


FIG. 16

FIG. 17

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

PCT/AU99/00894

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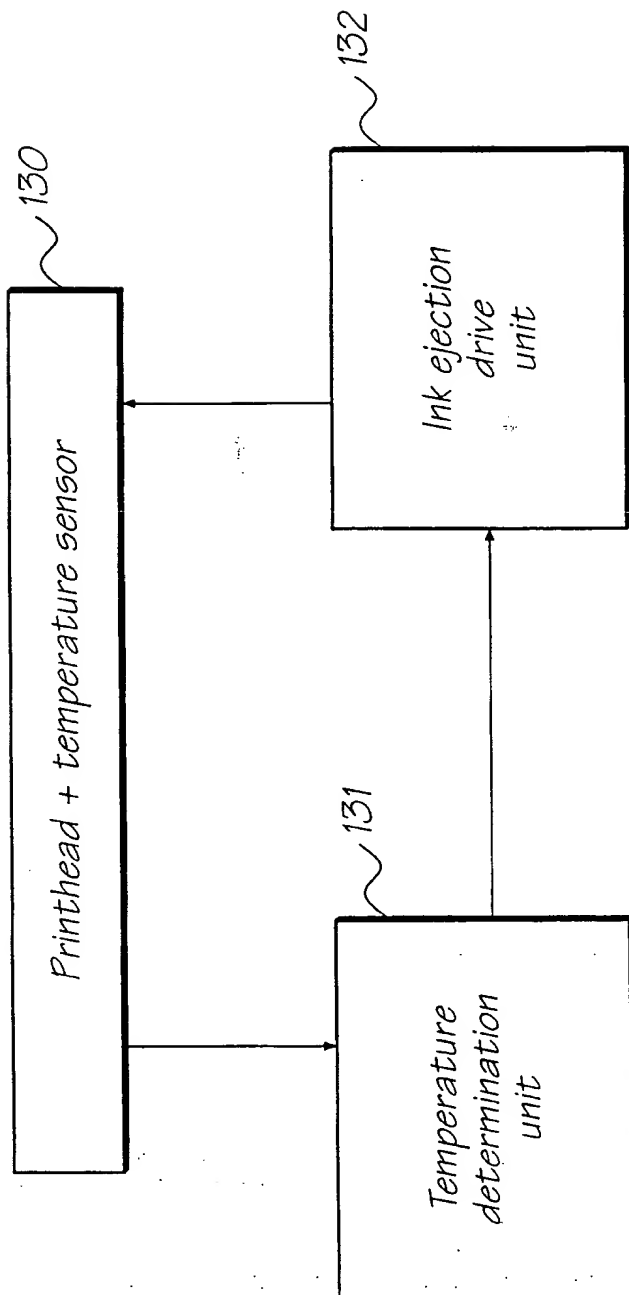


FIG. 17

FIG. 18

APPROVED	C.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

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9/80/297
PCT/AU99/00894

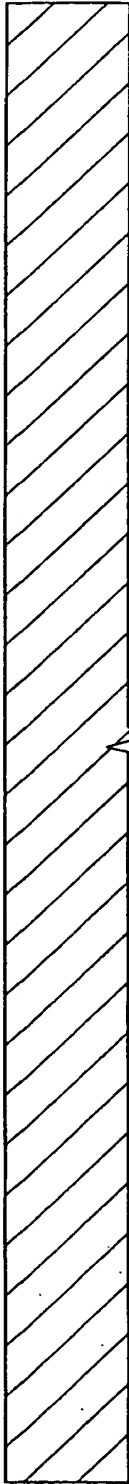
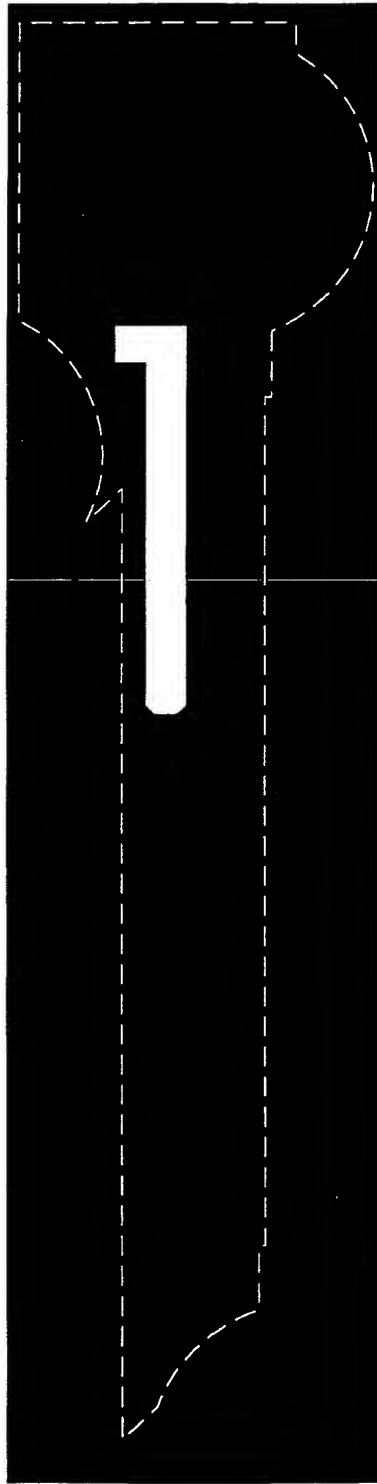


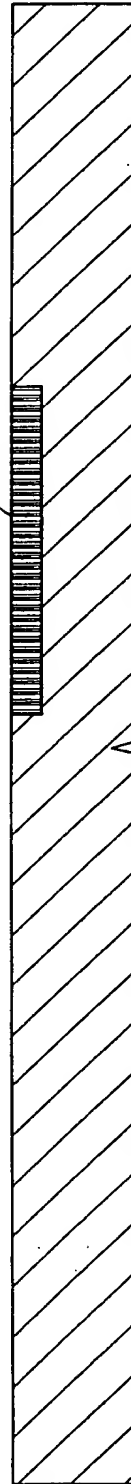
FIG. 18



N-Well mask

FIG. 19

210



Implant N-Well

FIG. 20

FIG. 21

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

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09/007297
PCT/AU99/00894

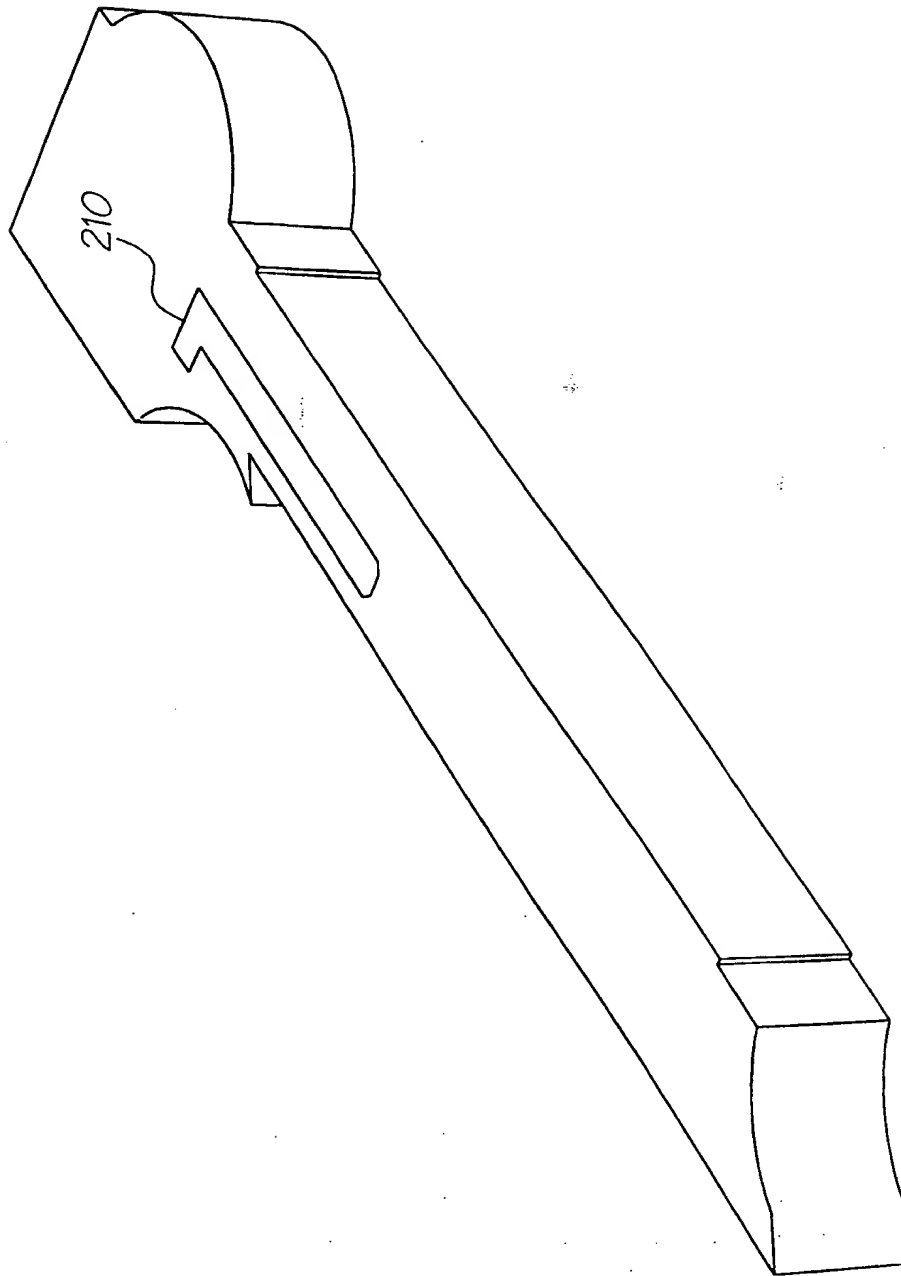


FIG. 21

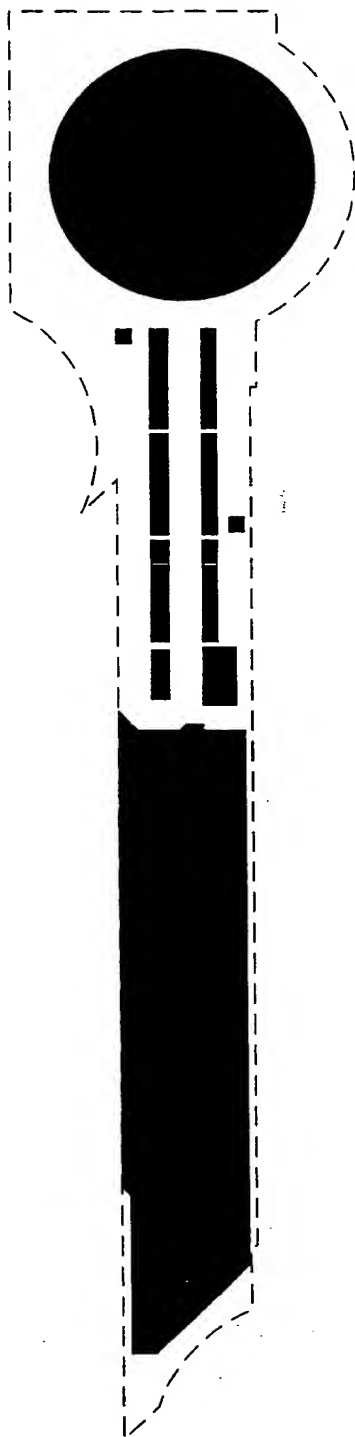
TOP SECRET 26240360

APPROVED	C.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

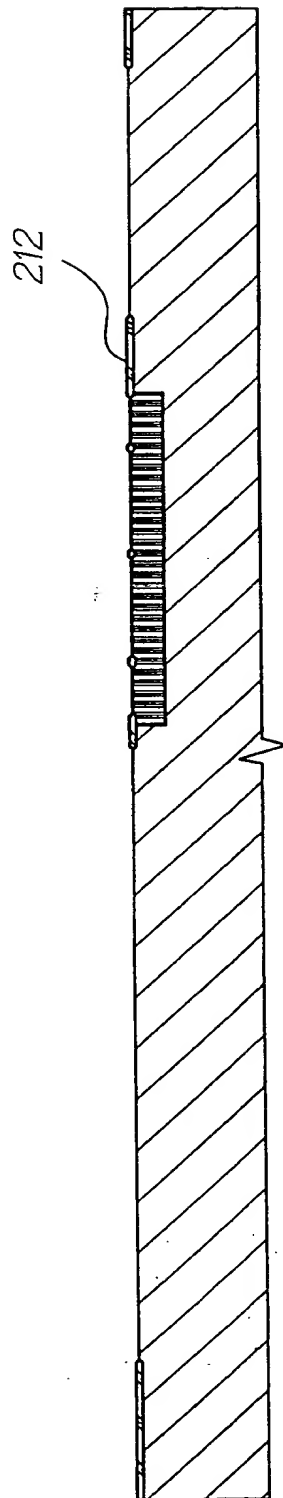
97807237
PCT/AU99/00894

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Active mask

FIG. 22



Grow field oxide

FIG. 23

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

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PCT/AU99/00894

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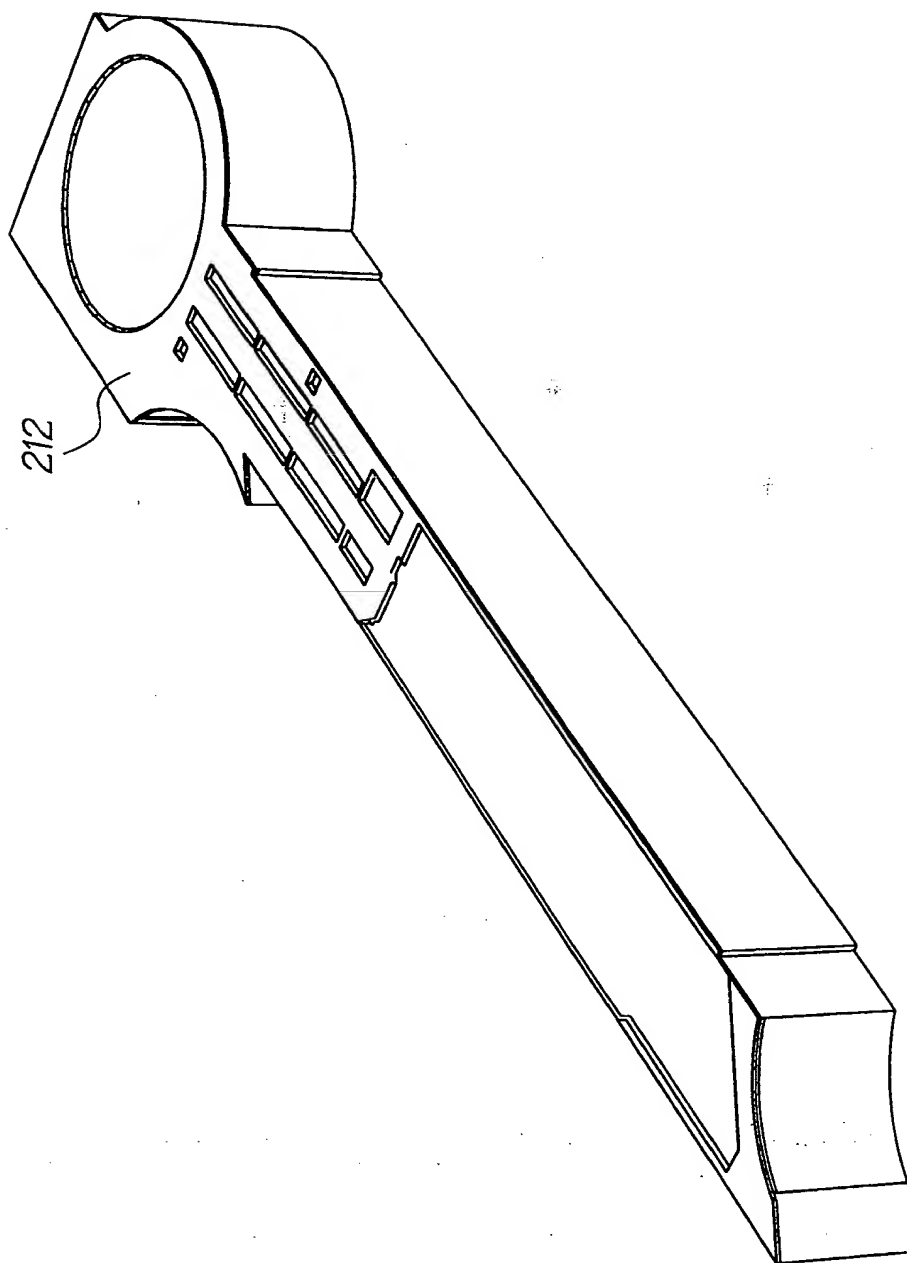
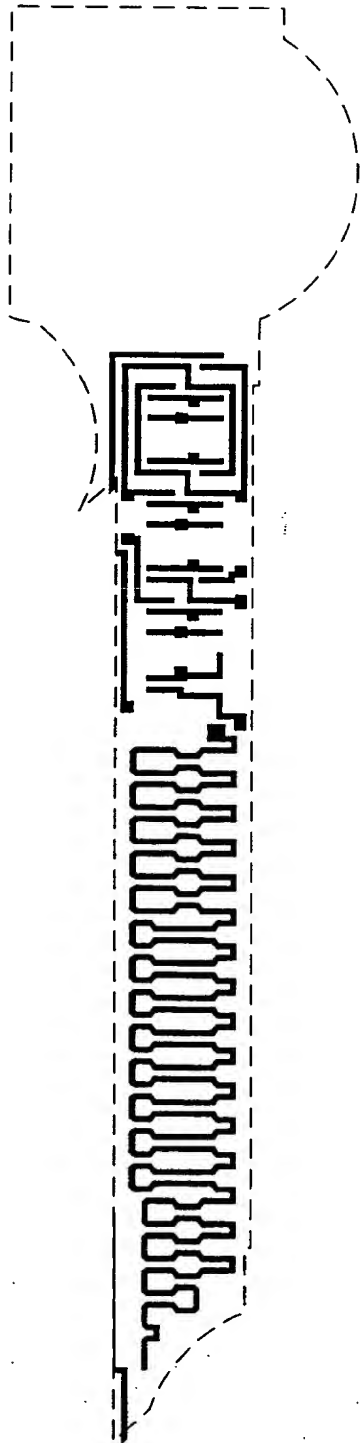


FIG. 24

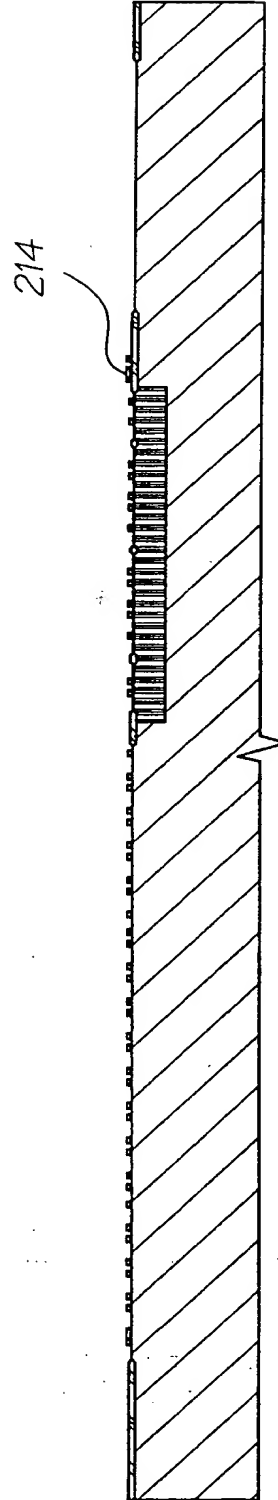
FIG. 24

APPROVED	O.G. FIG.
BY	CLASS. SUB.
DRAFTSMAN	



Poly mask

FIG. 25



Deposit poly

FIG. 26

APPROVED	O.G. FIG.
BY	CLASS. SUBC
DRAFTSMAN	

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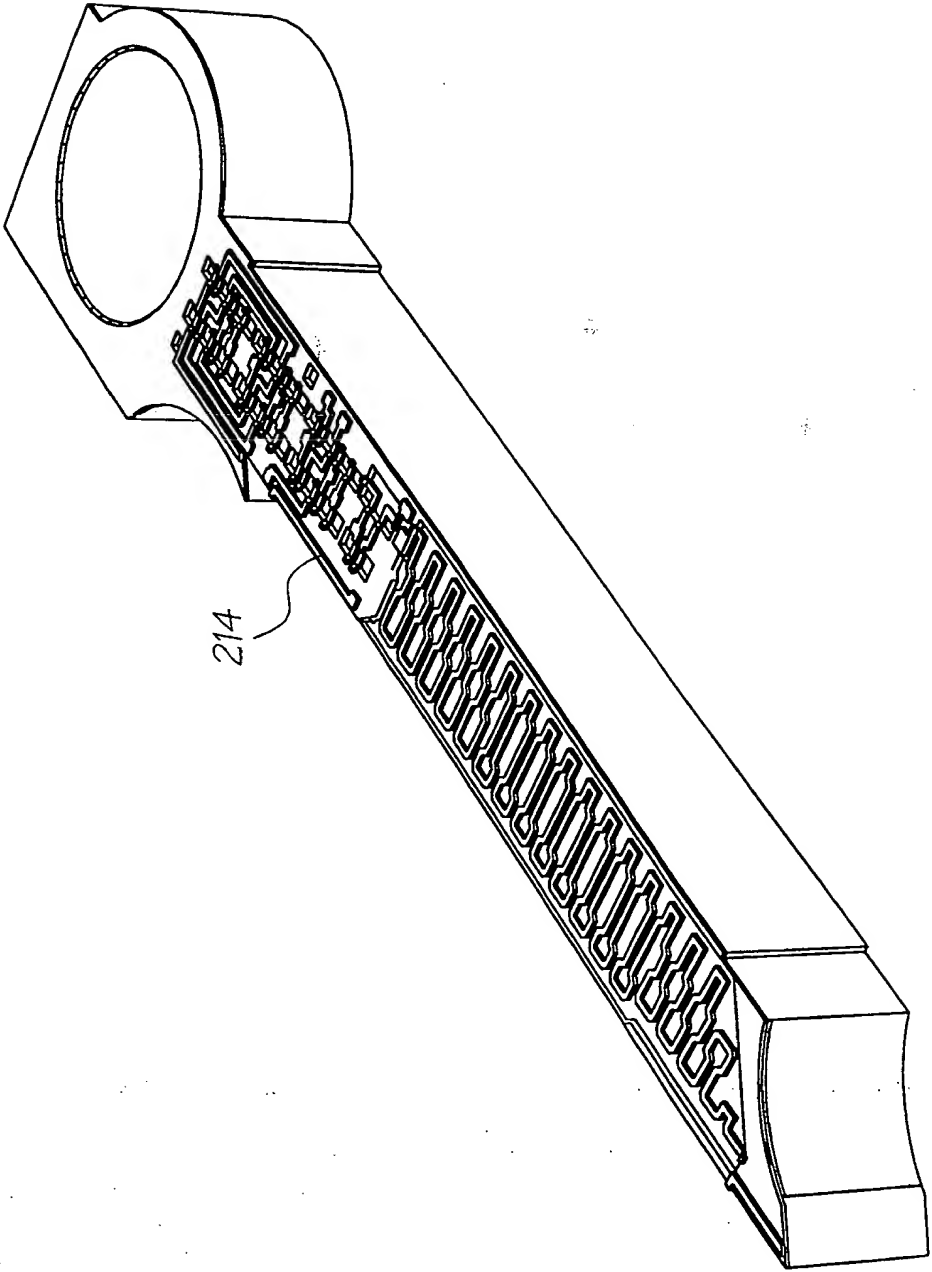


FIG. 27

TUTEDU" 46240860

FILED 45240860

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

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PCT/AU99/00894

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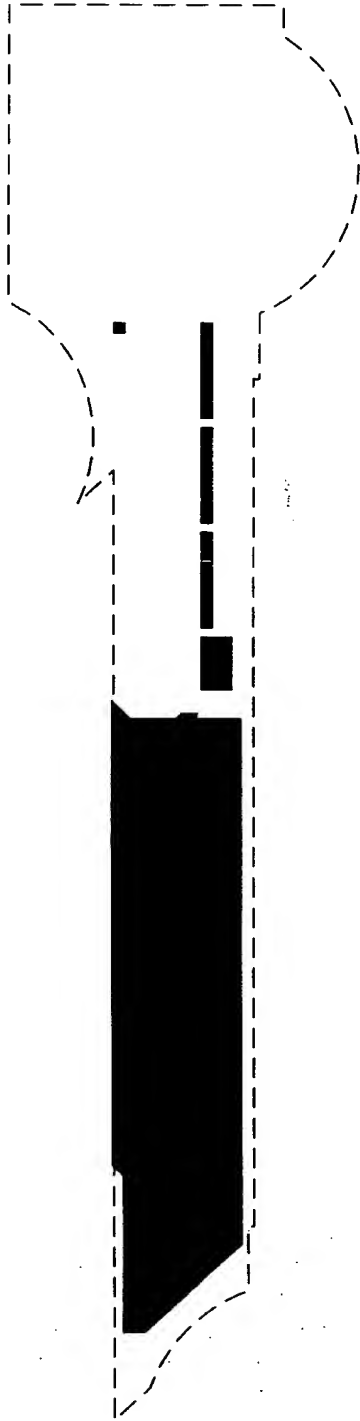


FIG. 28

n+ mask

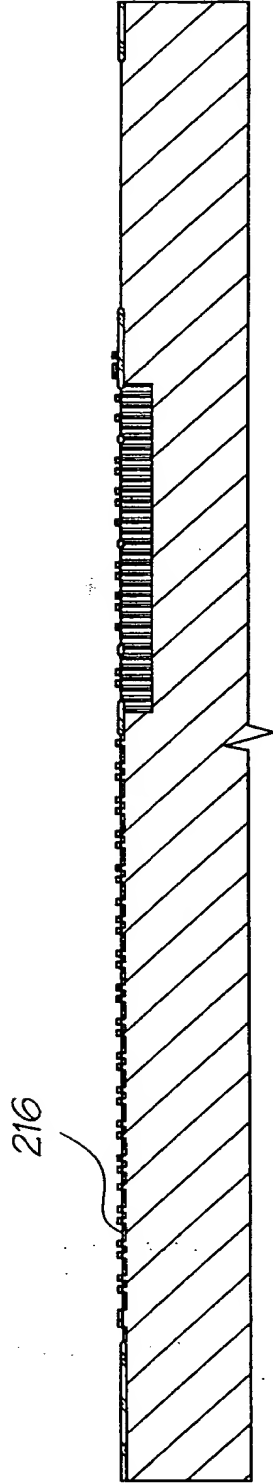


FIG. 29

n+ implant

APPROVED	C.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

9/807297
PCT/AU99/00894

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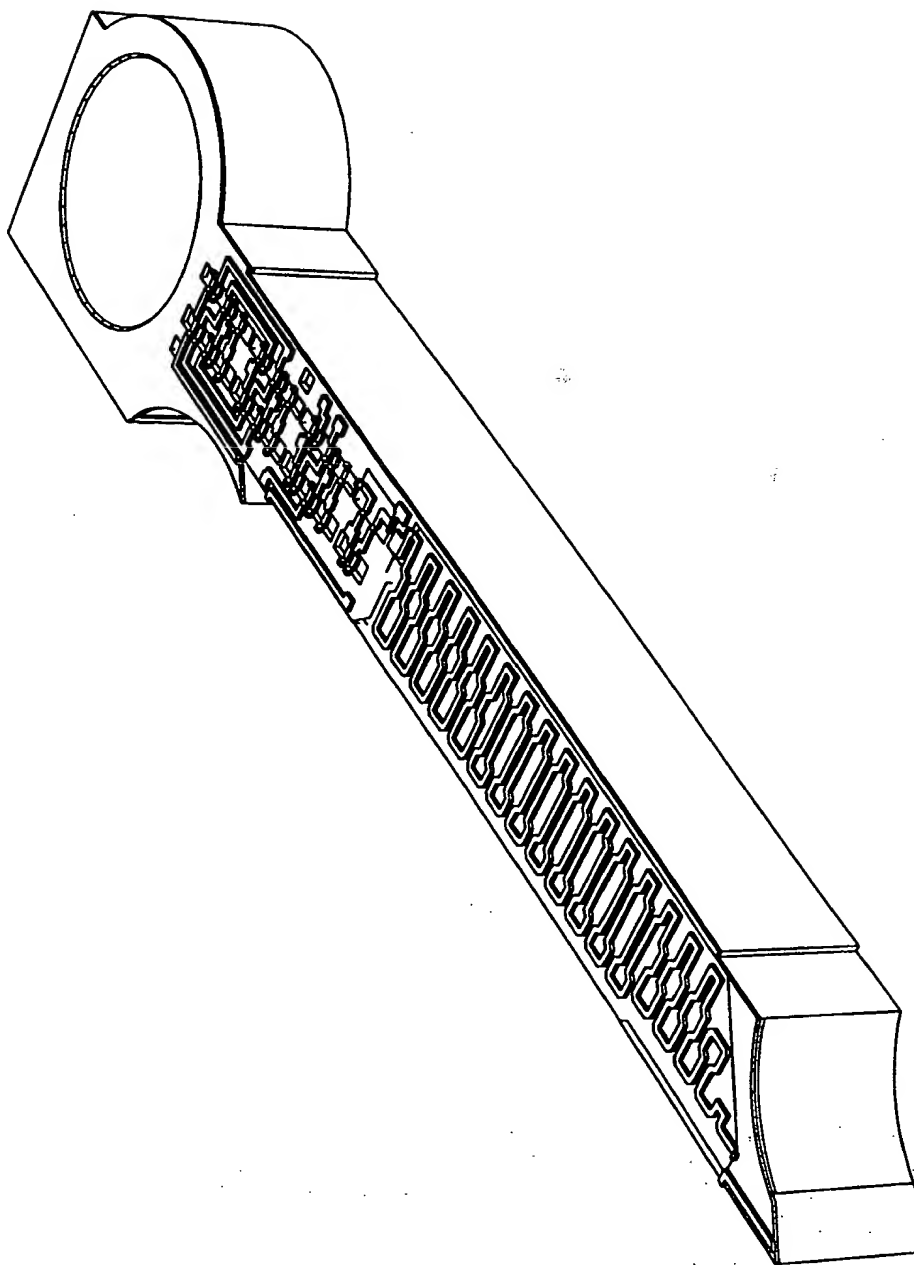
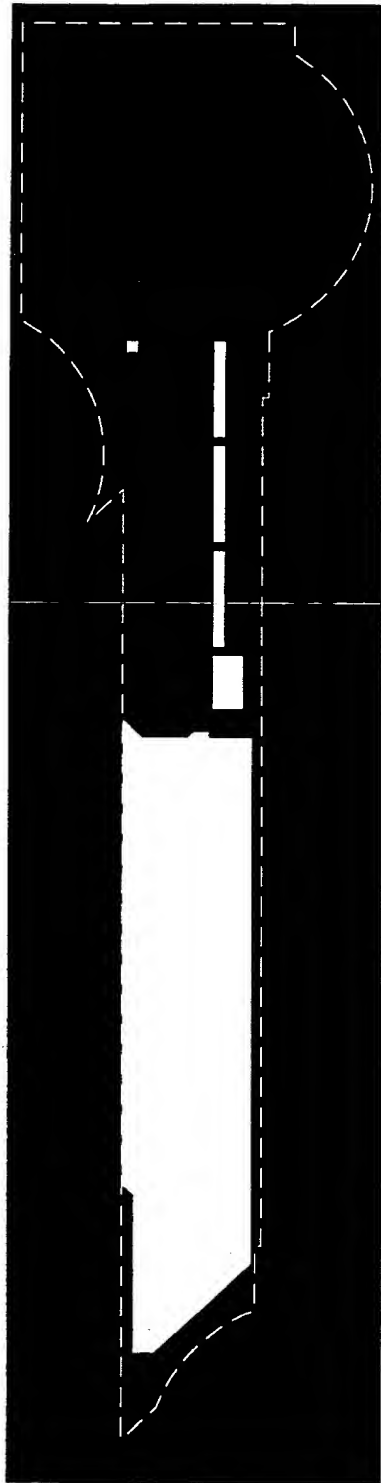


FIG. 30

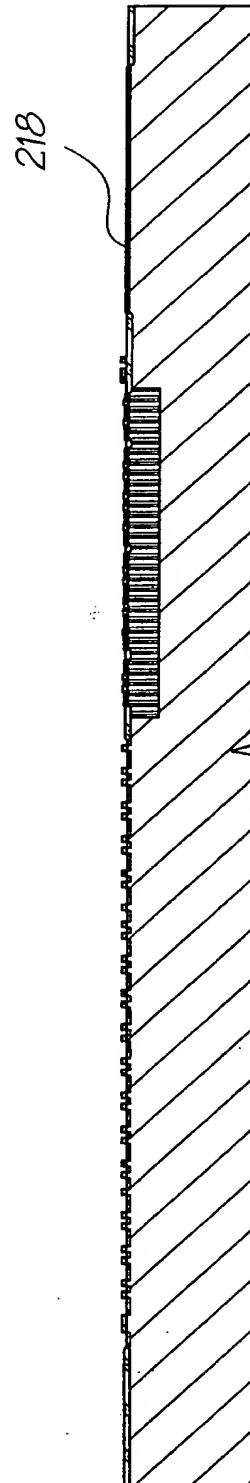
TOTERO 26220860

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p+ mask

FIG. 31



p+ implant

FIG. 32

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APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

TOTED" 6220860

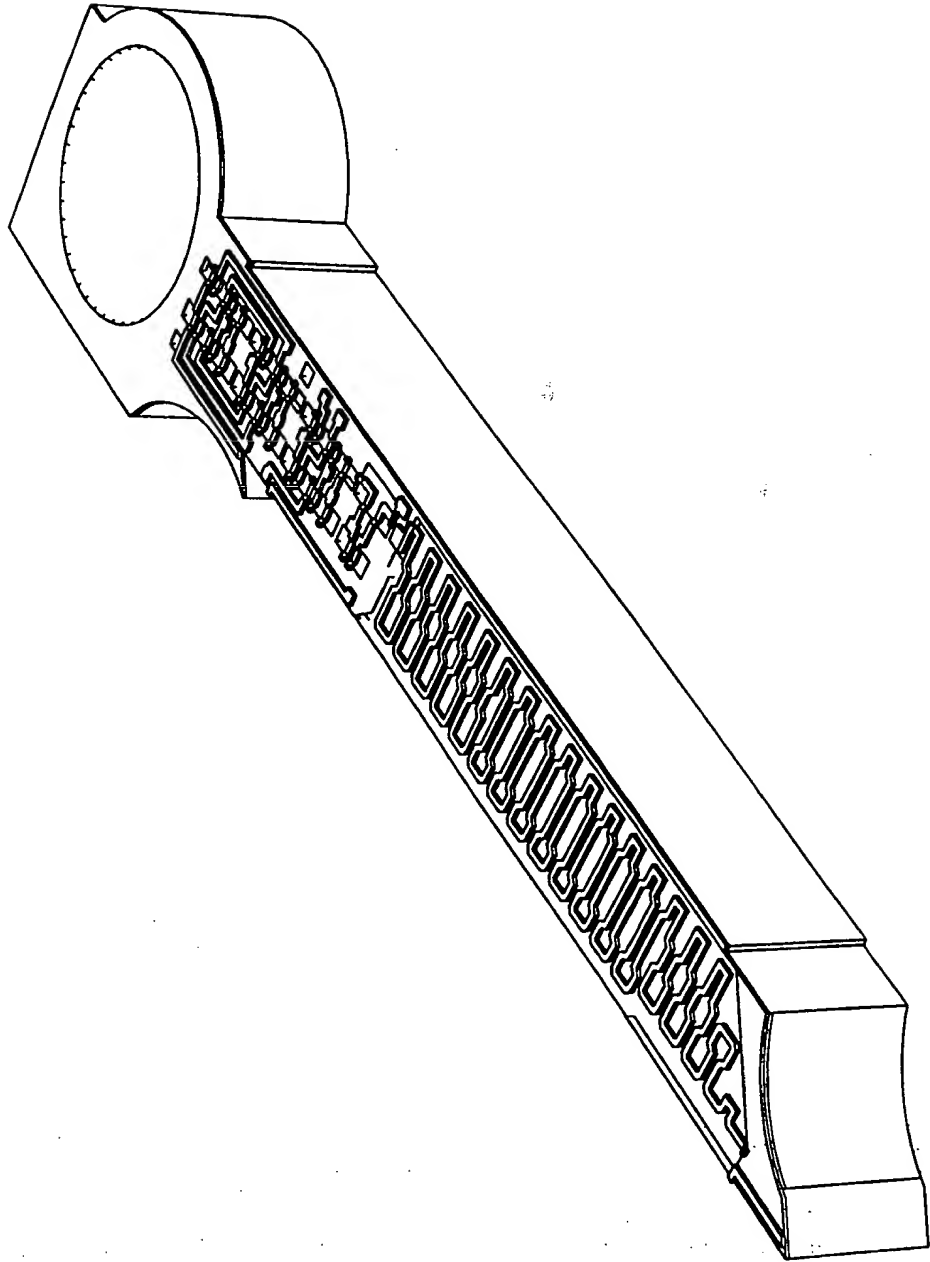


FIG. 33

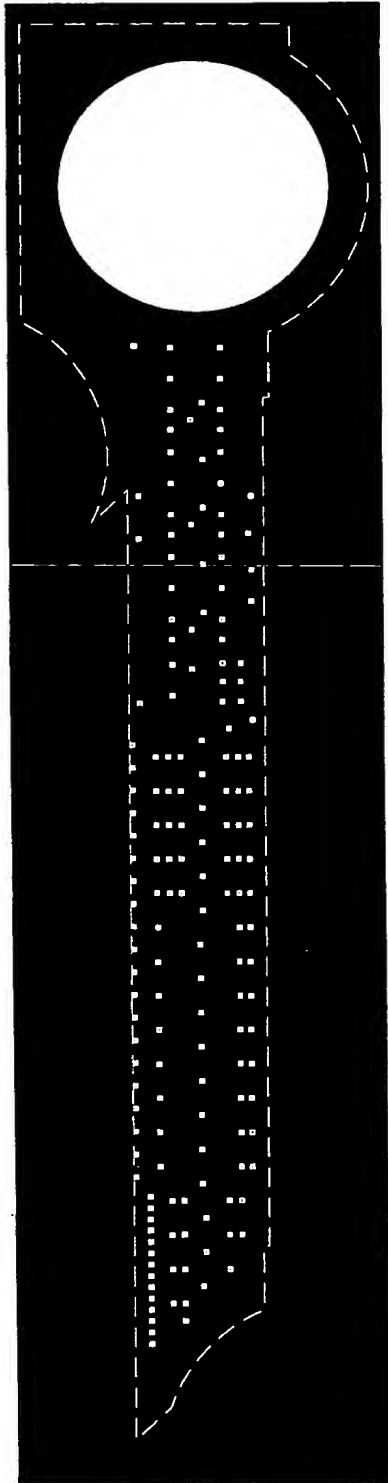
TOTAL 262,0850

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

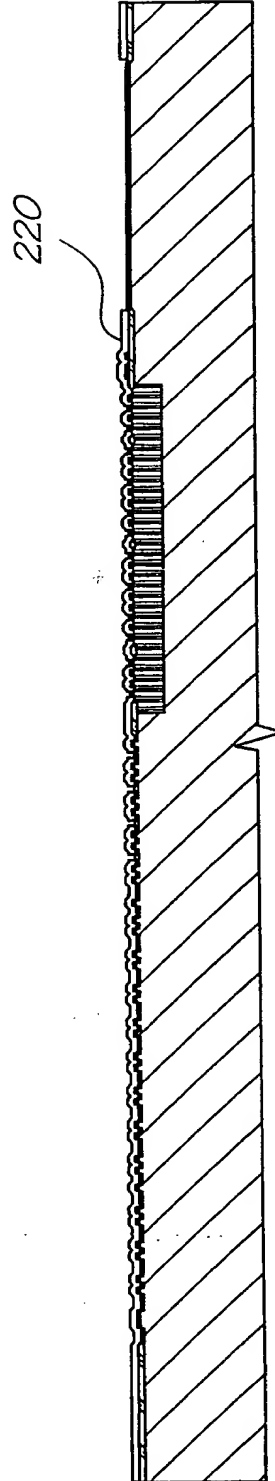
PCT/AU99/00894

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Contacts mask

FIG. 34



Deposit ILD 1, etch contacts

FIG. 35

APPROVED	O.G. FIG.
BY	CLASS. SUBCLAS.
DRAFTSMAN	

WO 00/23279

PCT/AU99/00894

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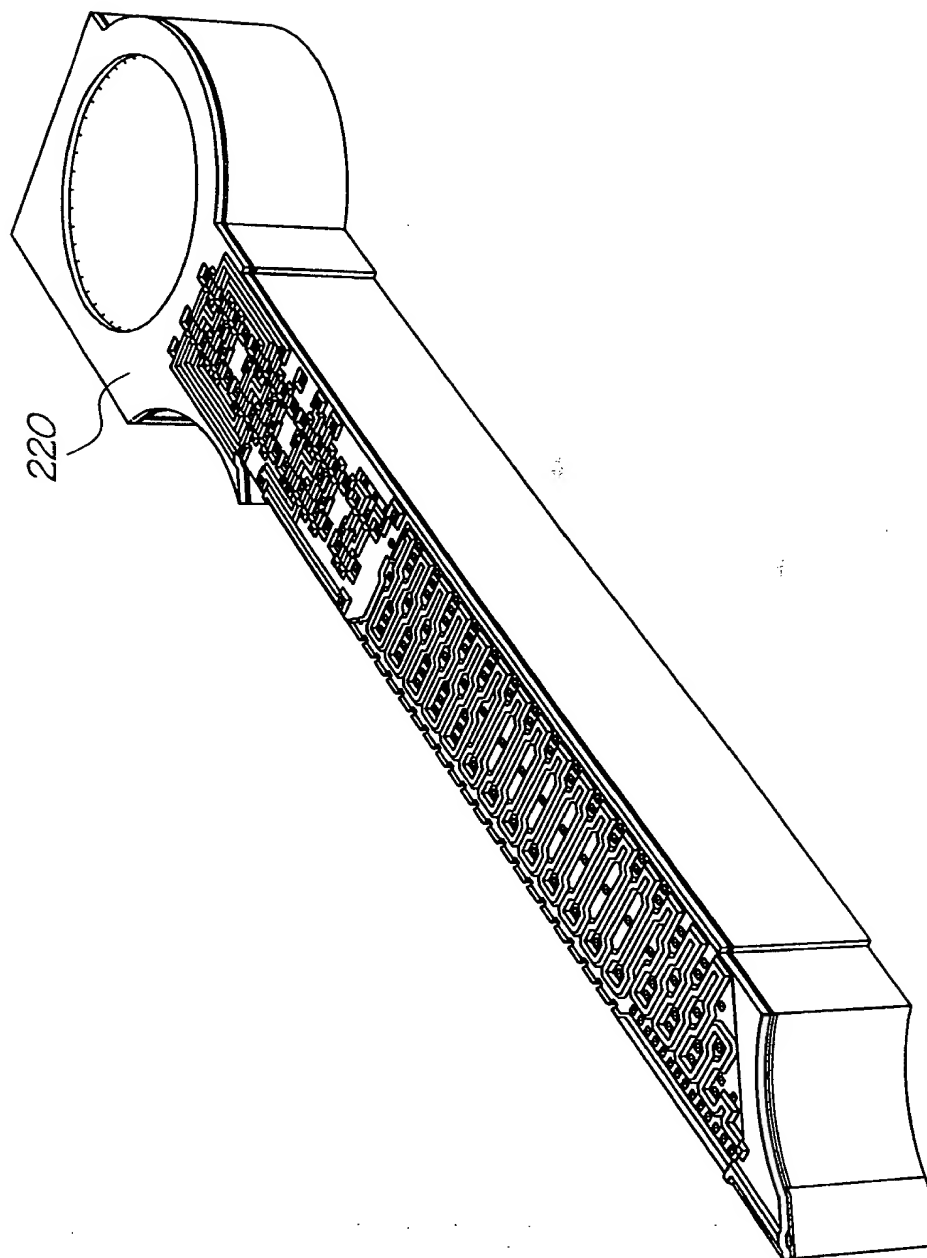
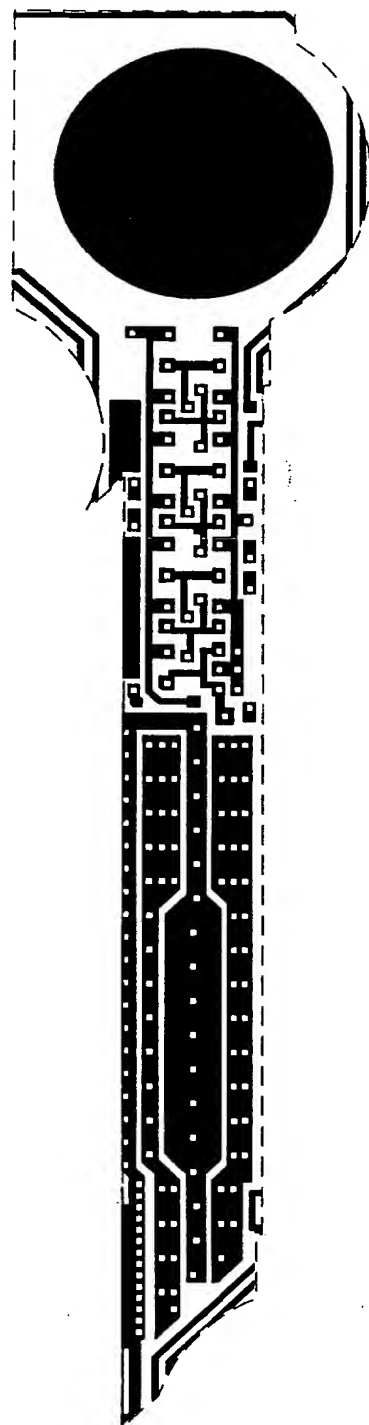


FIG. 36

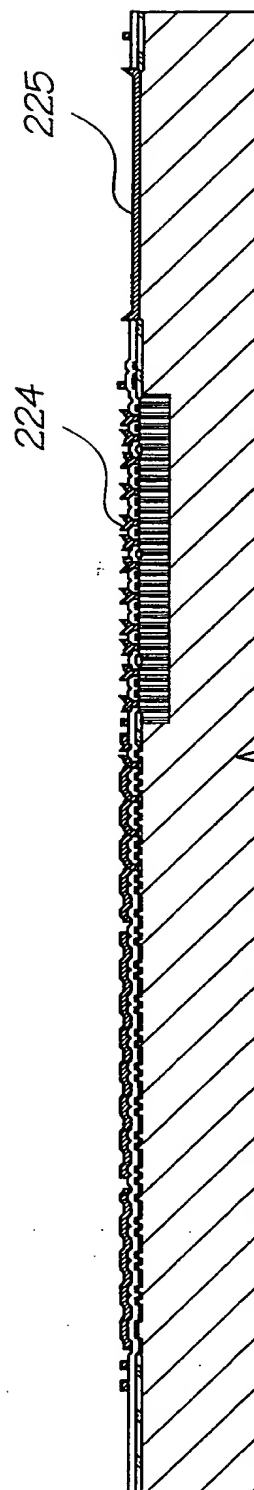
T07E80" 26240860

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Metal 1 mask

FIG. 37



Deposit Metal 1

FIG. 38

TOTED 26240860

APPROVED	C.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

PCT/AU99/00894

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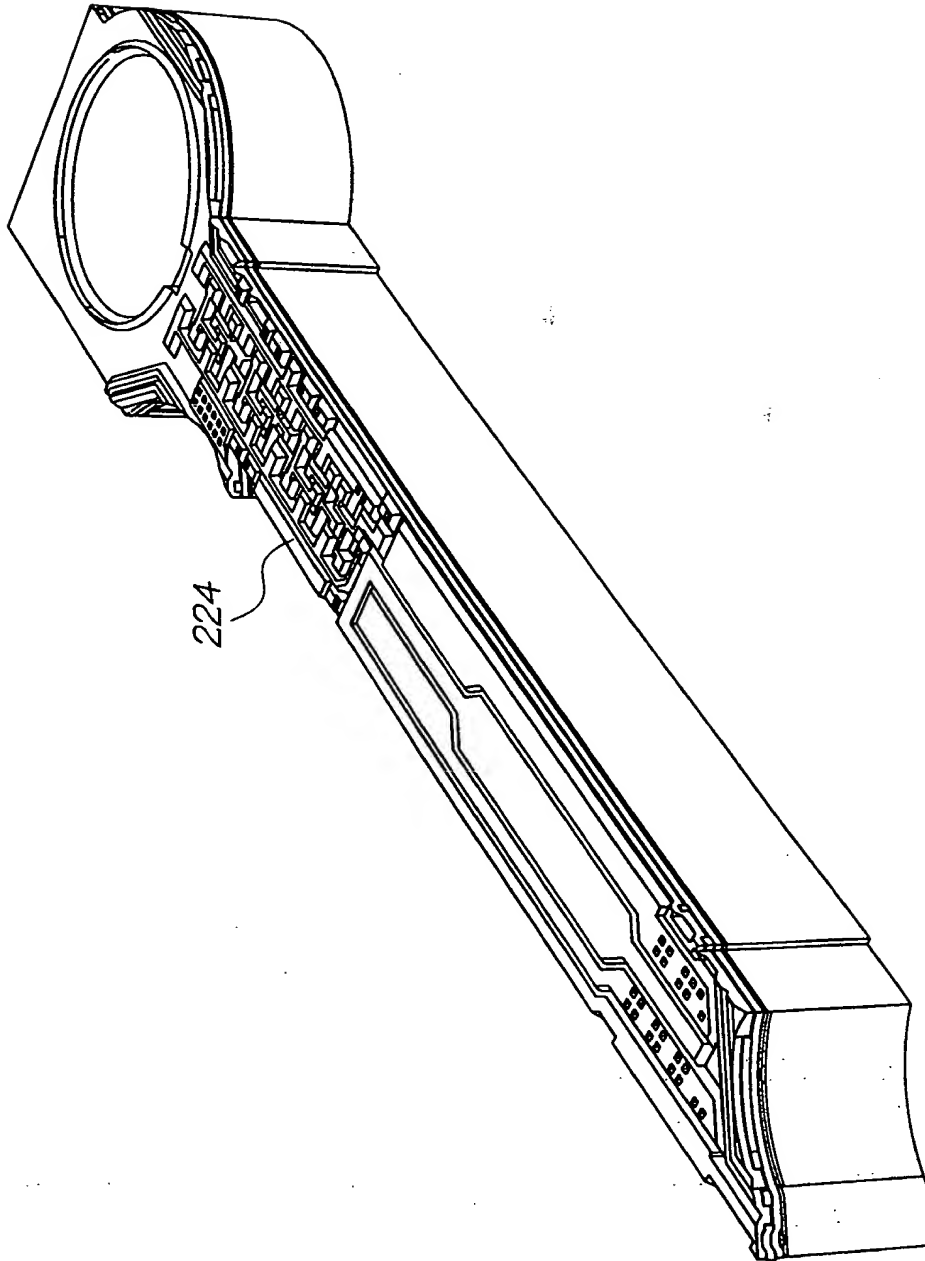


FIG. 39

FIG. 39

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

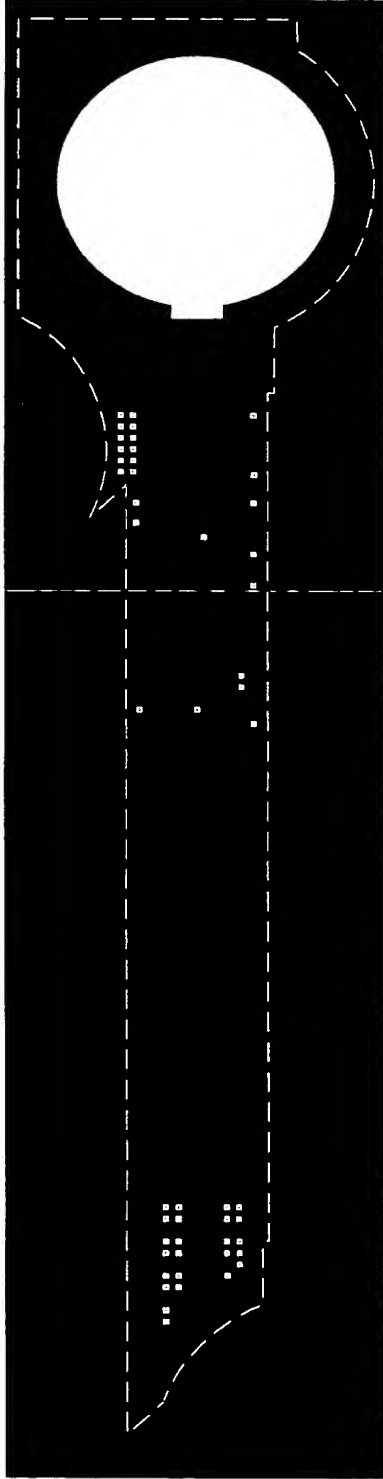
WO 00/23279

09/63/274

PCT/AU99/00894

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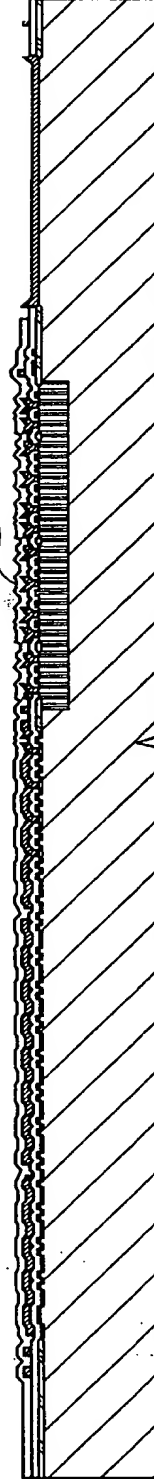
FIG. 40



Via 1 mask

FIG. 40

228



Deposit ILD 2, etch vias

FIG. 41

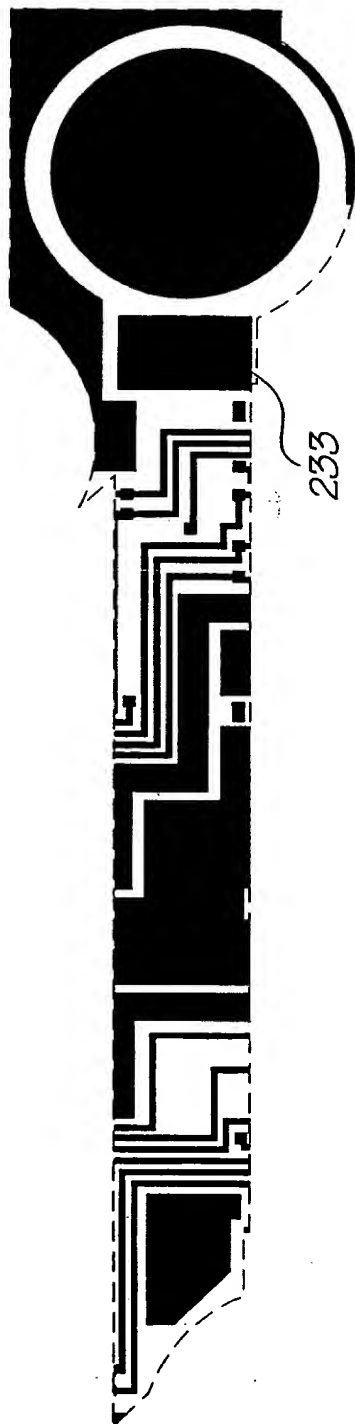
TOTERO 26220860

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

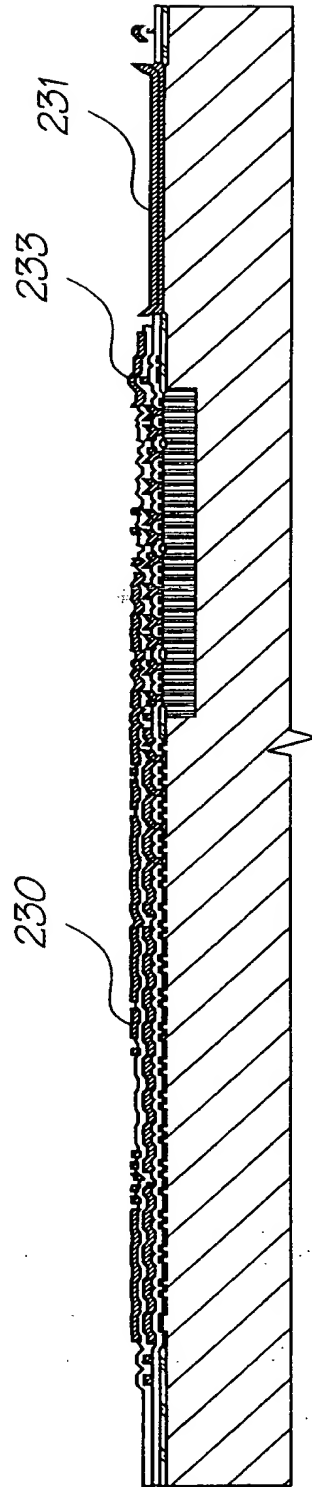
PCT/AU99/00894

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Metal 2 mask

FIG. 42



Deposit metal 2

FIG. 43

APPROVED BY DRAFTSMAN	O.G. FIG.
	CLASS/SUBCLASS

WO 00/23279

PCT/AU99/00894

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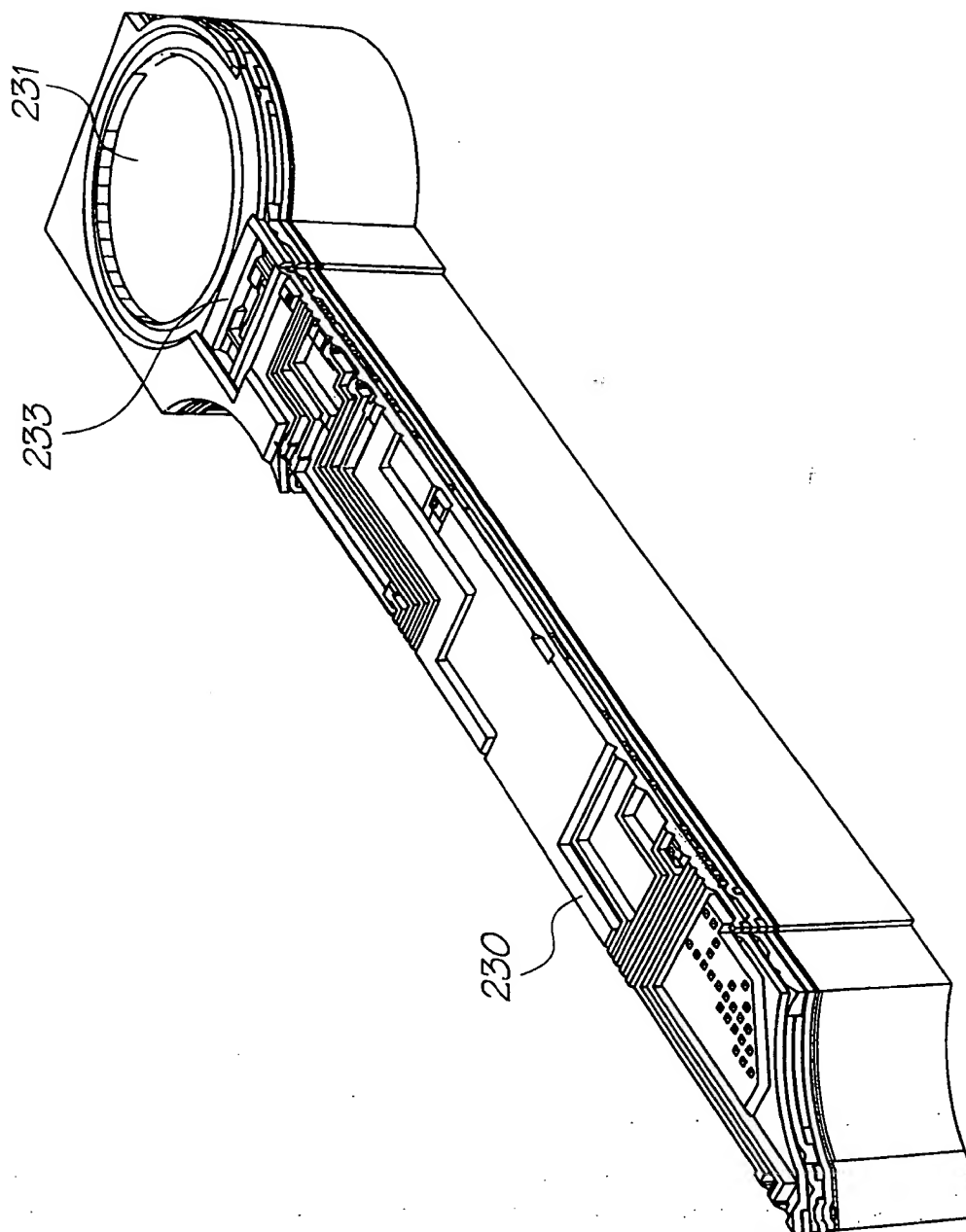


FIG. 44

FIG. 44

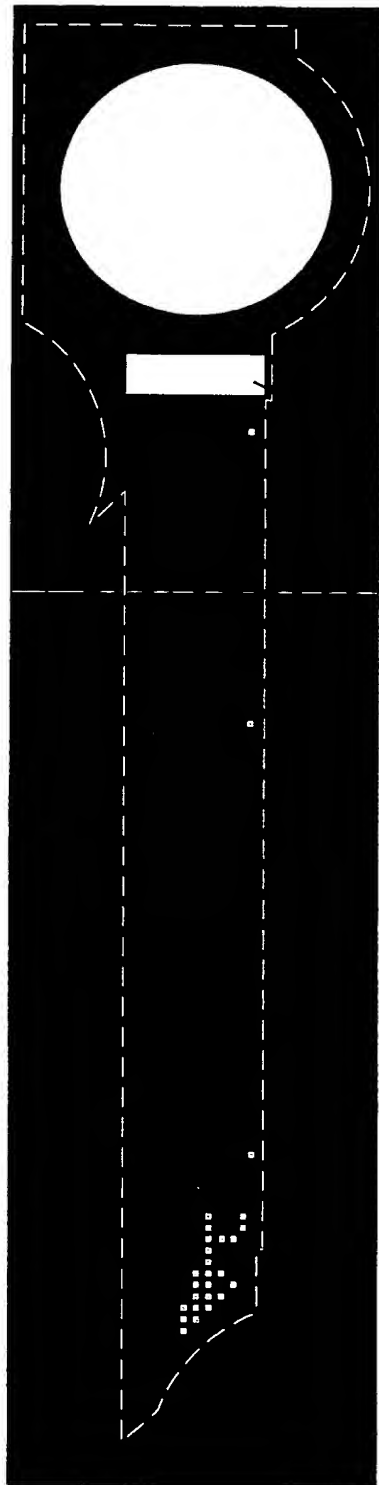
FIG. 280" 26220260

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

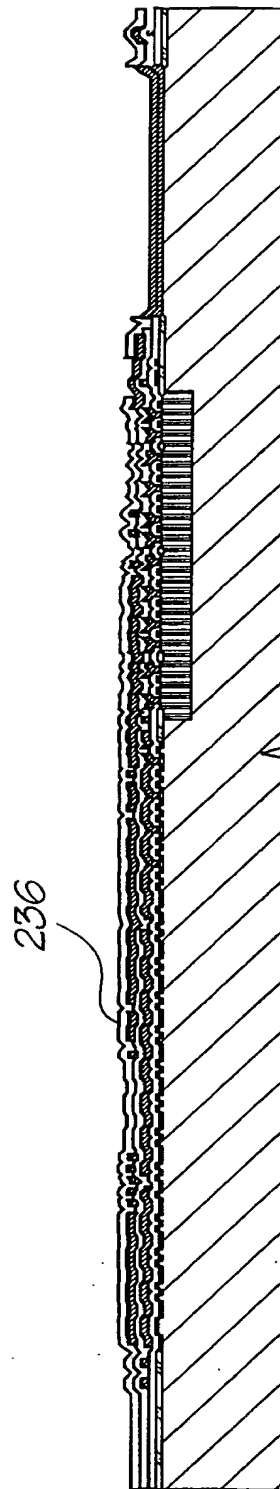
PCT/AU99/00894

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Via 2 mask

FIG. 45



Deposit ILD 3, etch vias

FIG. 46

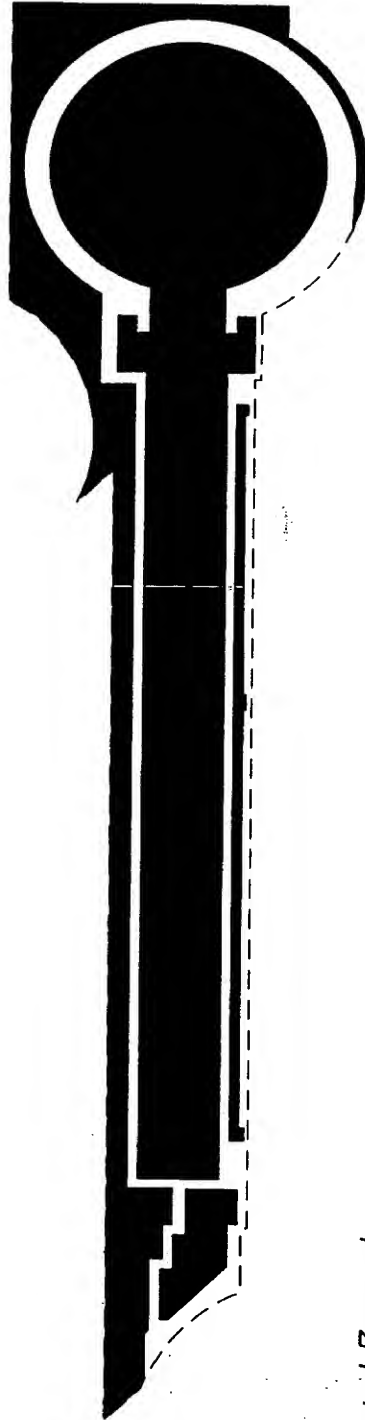
APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

09/807297

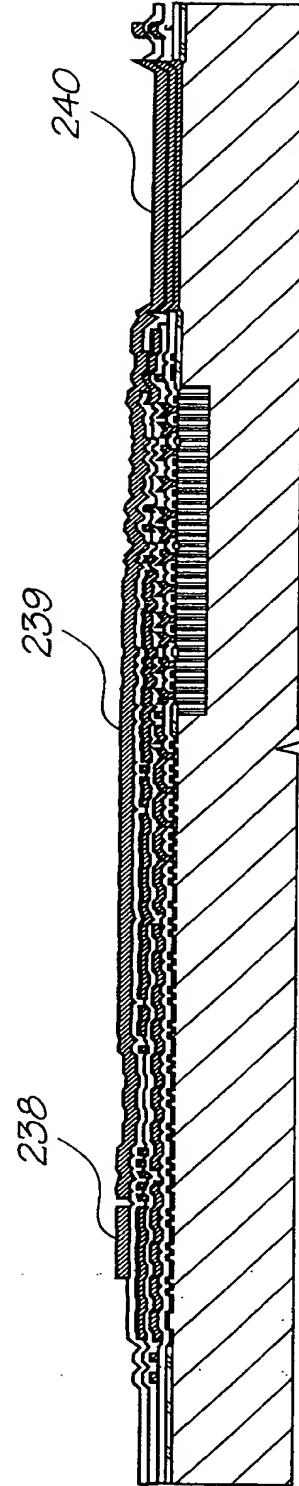
PCT/AU99/00894

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Metal 3 mask

FIG. 47



Deposit metal 3

FIG. 48

FIG. 47

APPROVED	O.G. FIG.	CLASS/SUBCLASS
BY	CLASS/SUBCLASS	BY
DRAFTSMAN		DRAFTSMAN

WO 00/23279

PCT/AU99/00894

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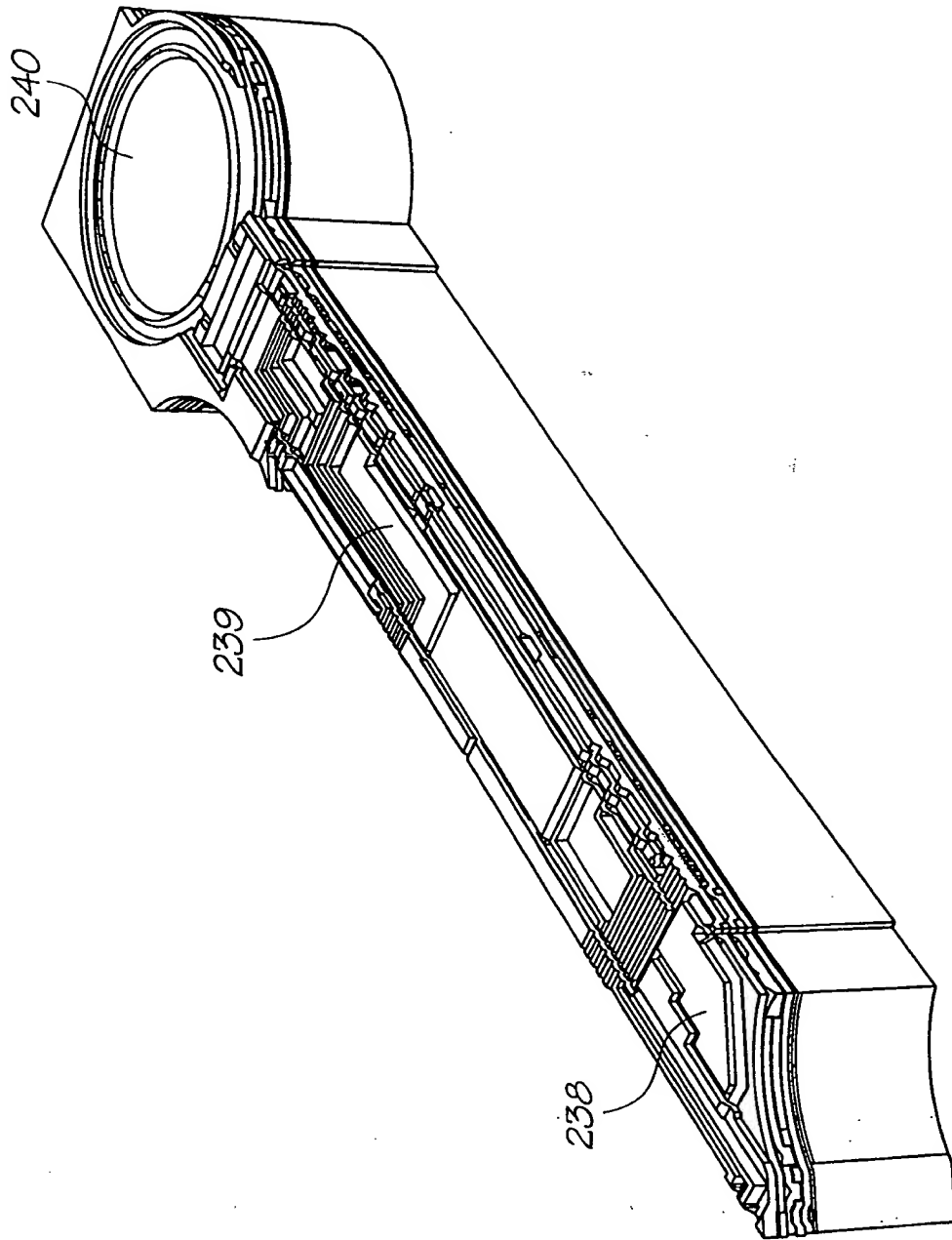
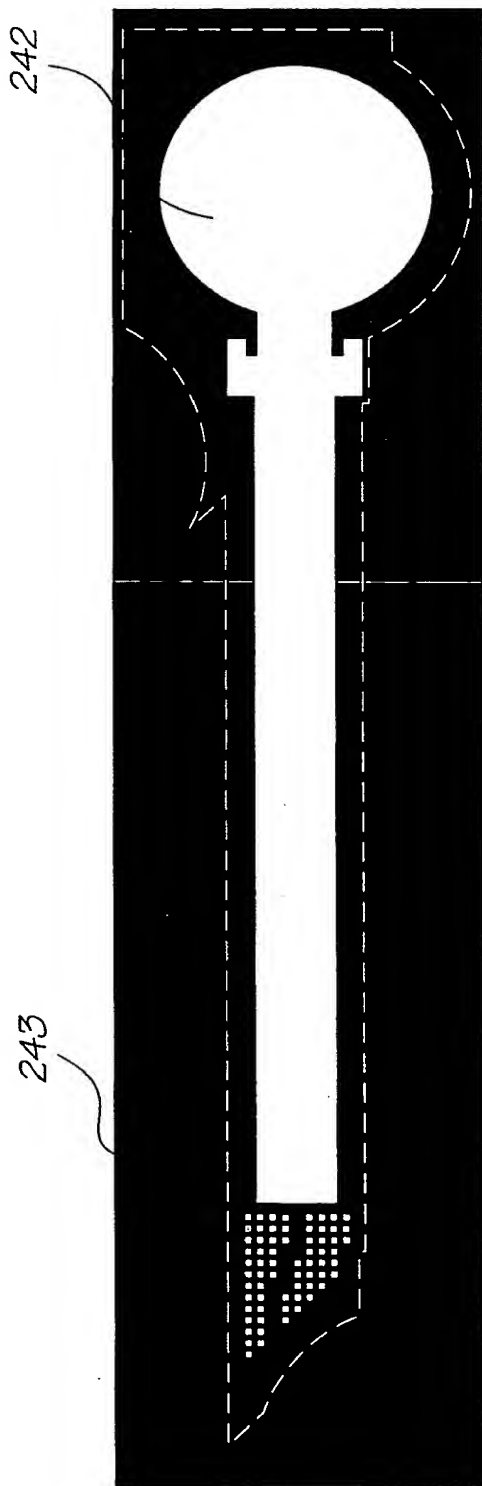


FIG. 49

TOTED 26220860

APPROVED	C.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	



Via 3 / Passivation mask

FIG. 50

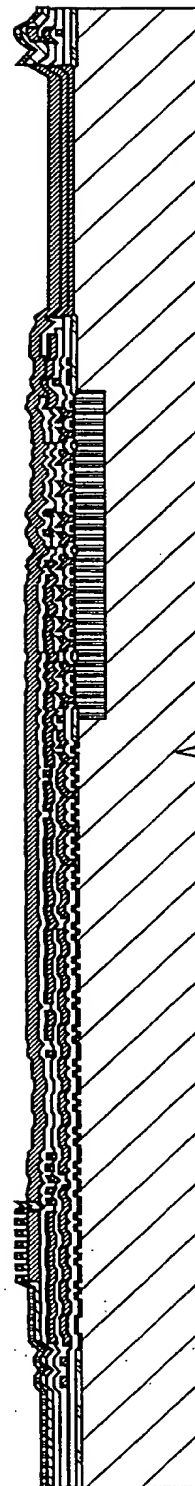


FIG. 51

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

PCT/AU99/00894

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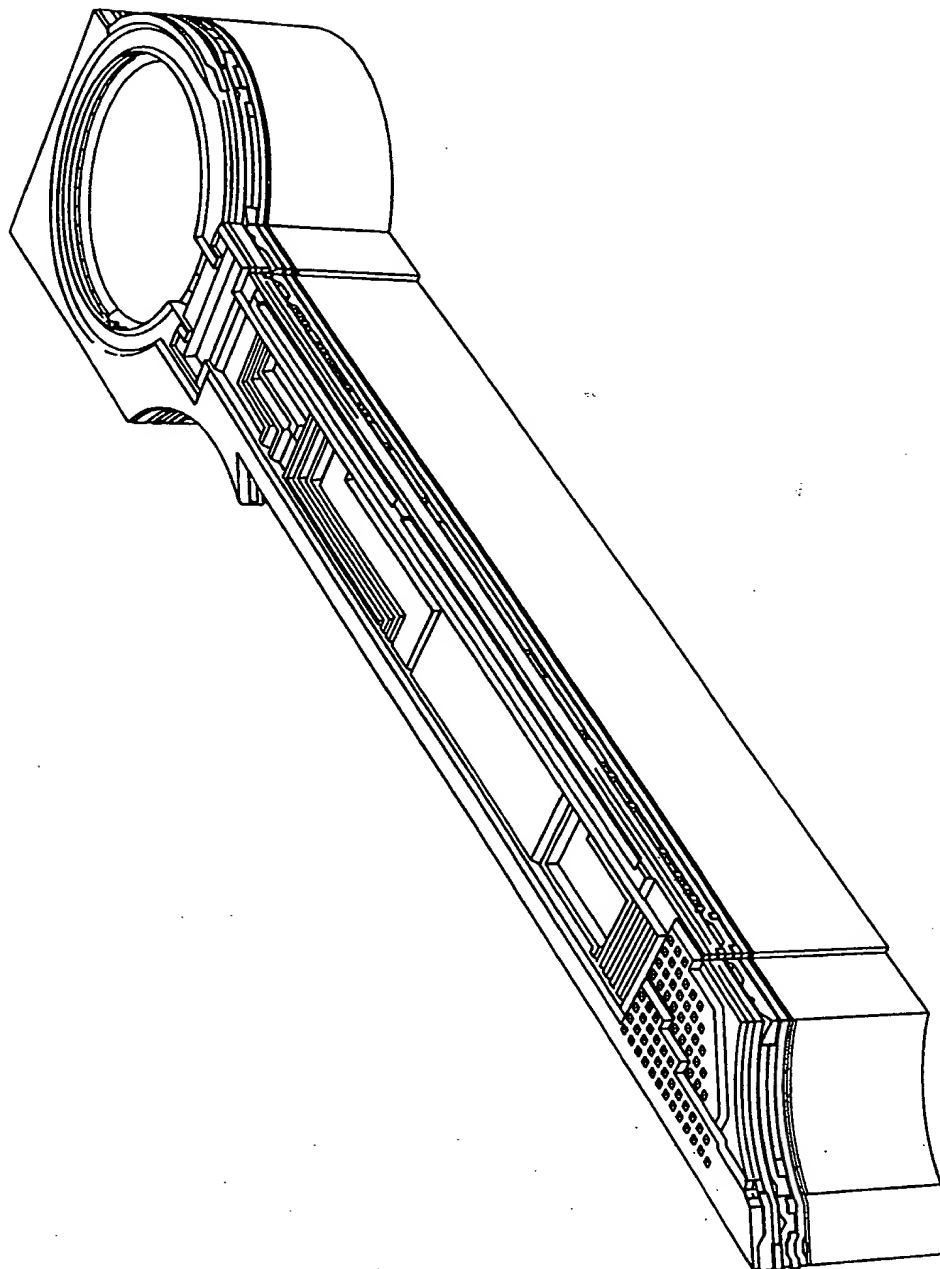
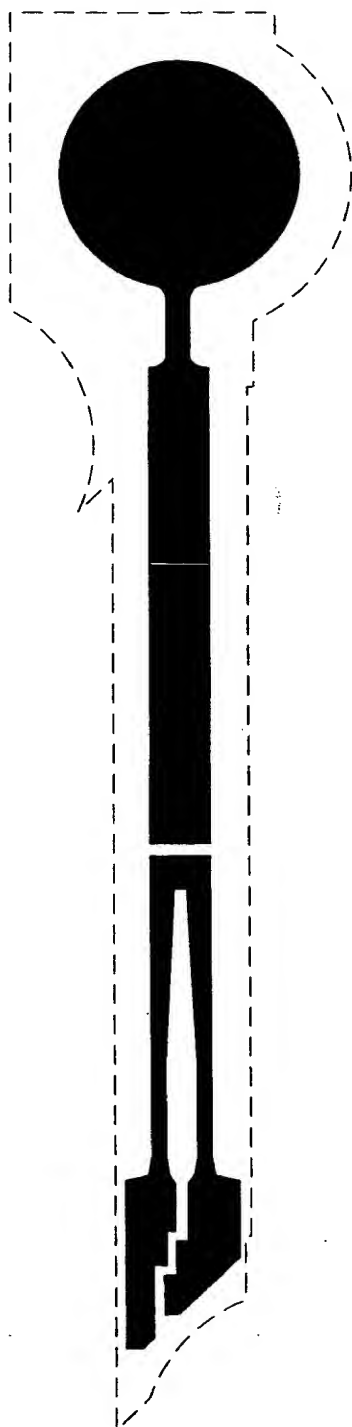


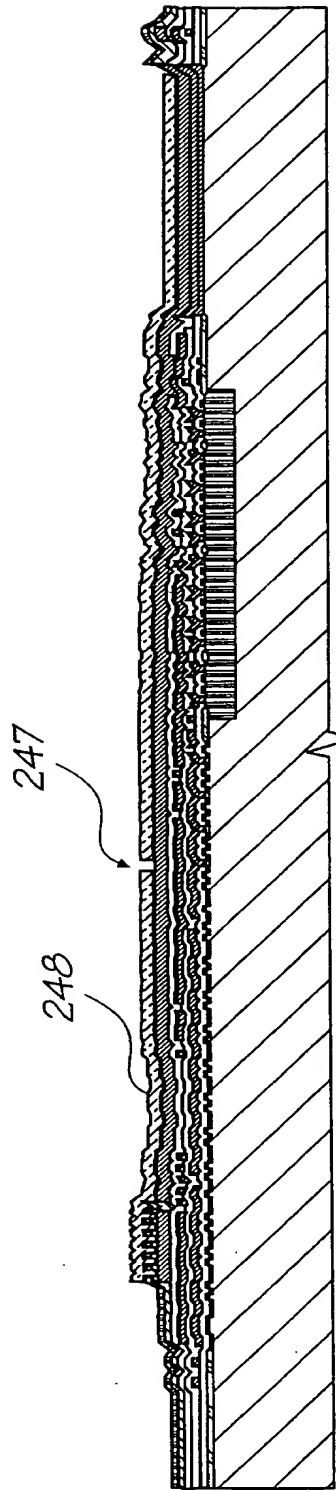
FIG. 52

FIG. 52



Heater mask

FIG. 53



Deposit heater TiN

FIG. 54

APPROVED	O.G. FIG.
BY	CLASS SUBCLAS
CRAFTSMAN	

WO 00/23279

PCT/AU99/00894

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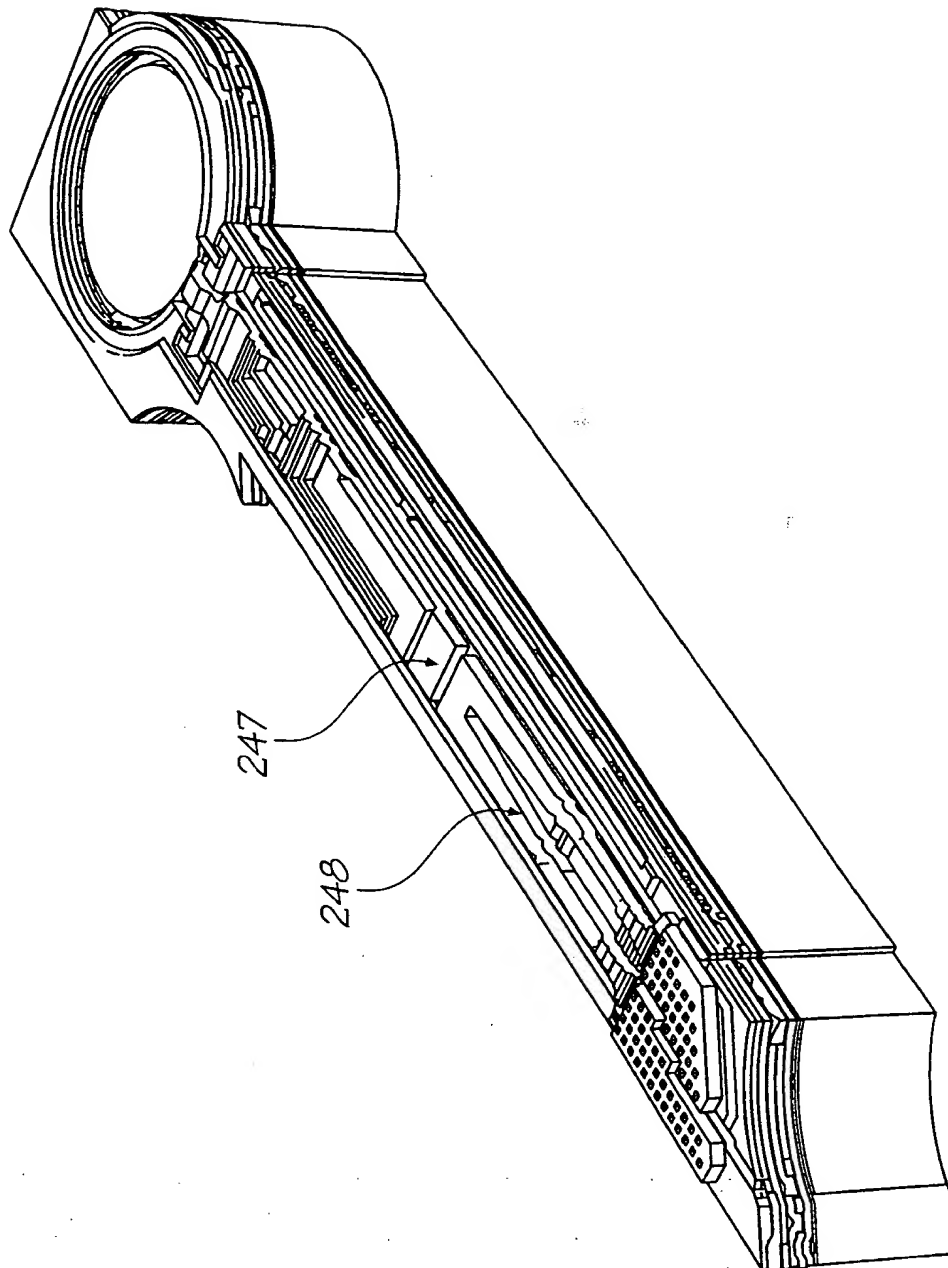
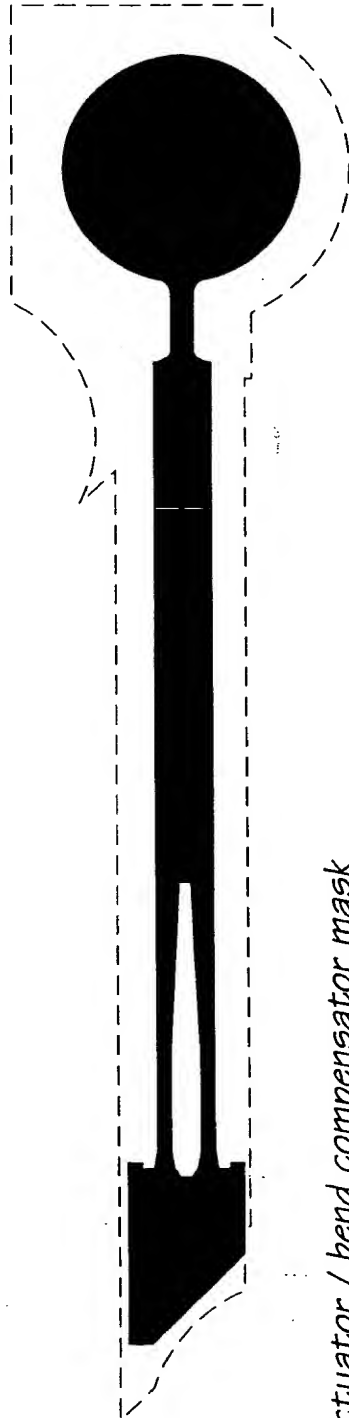


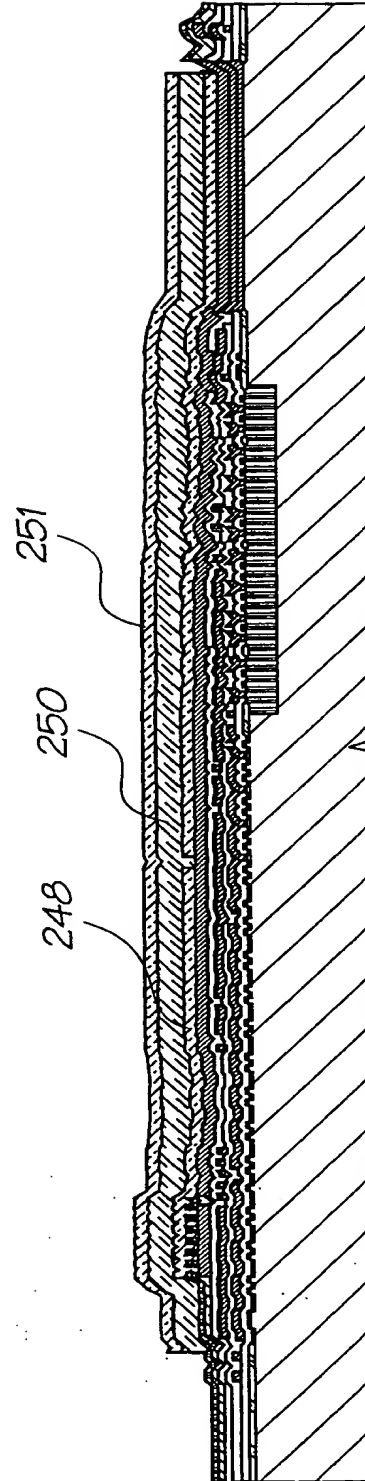
FIG. 55

FIG. 55



Actuator / bend compensator mask

FIG. 56



Deposit actuator glass and bend compensator TiN, etch together

FIG. 57

APPROVED	O.G. FIG.
BY	CLASS/SUBCL
DRAFTSMAN	

WO 00/23279

PCT/AU99/00894

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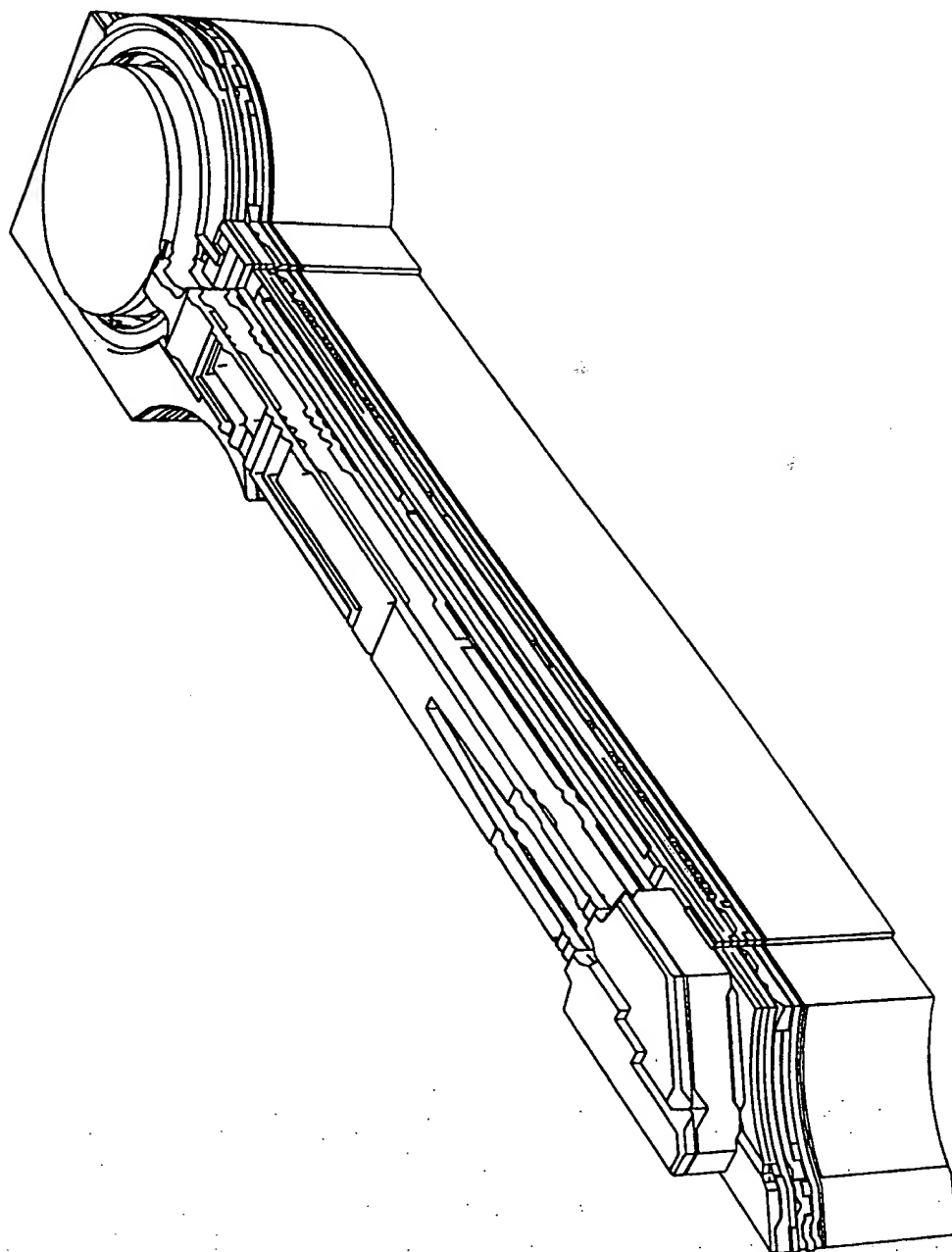
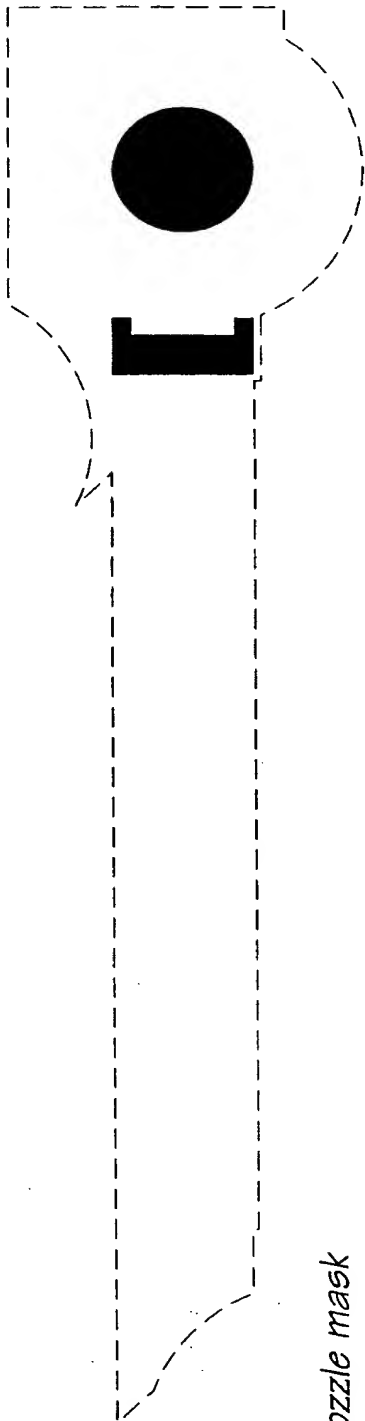


FIG. 58

FIG. 58

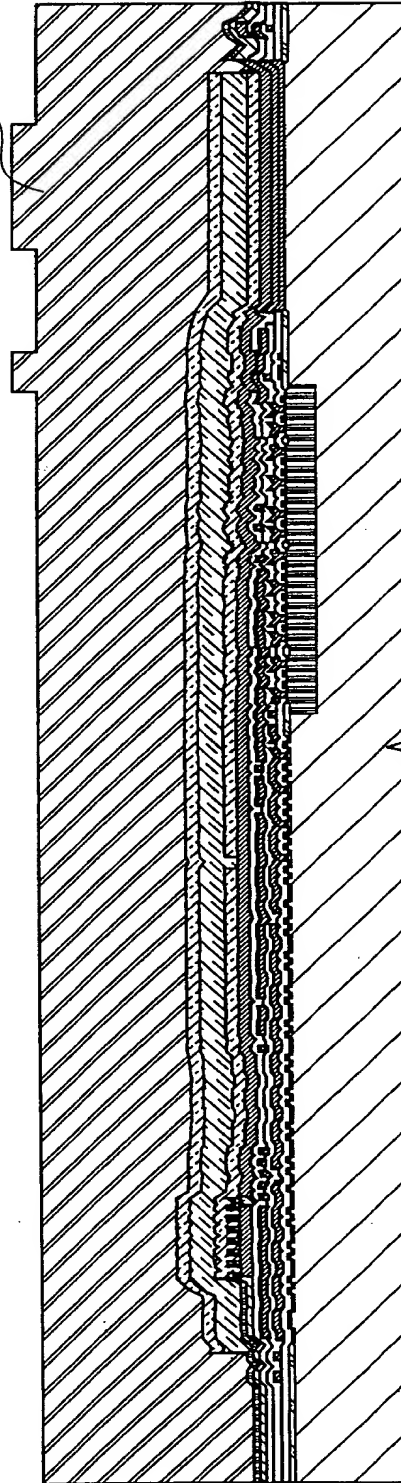
APPROVED	O.G. FIG.
BY	CLASS SUBCLAS.
DRAFTSMAN	



Nozzle mask

FIG. 59

254



Deposit sacrificial layer, etch nozzles

FIG. 60

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

PCT/AU99/00894

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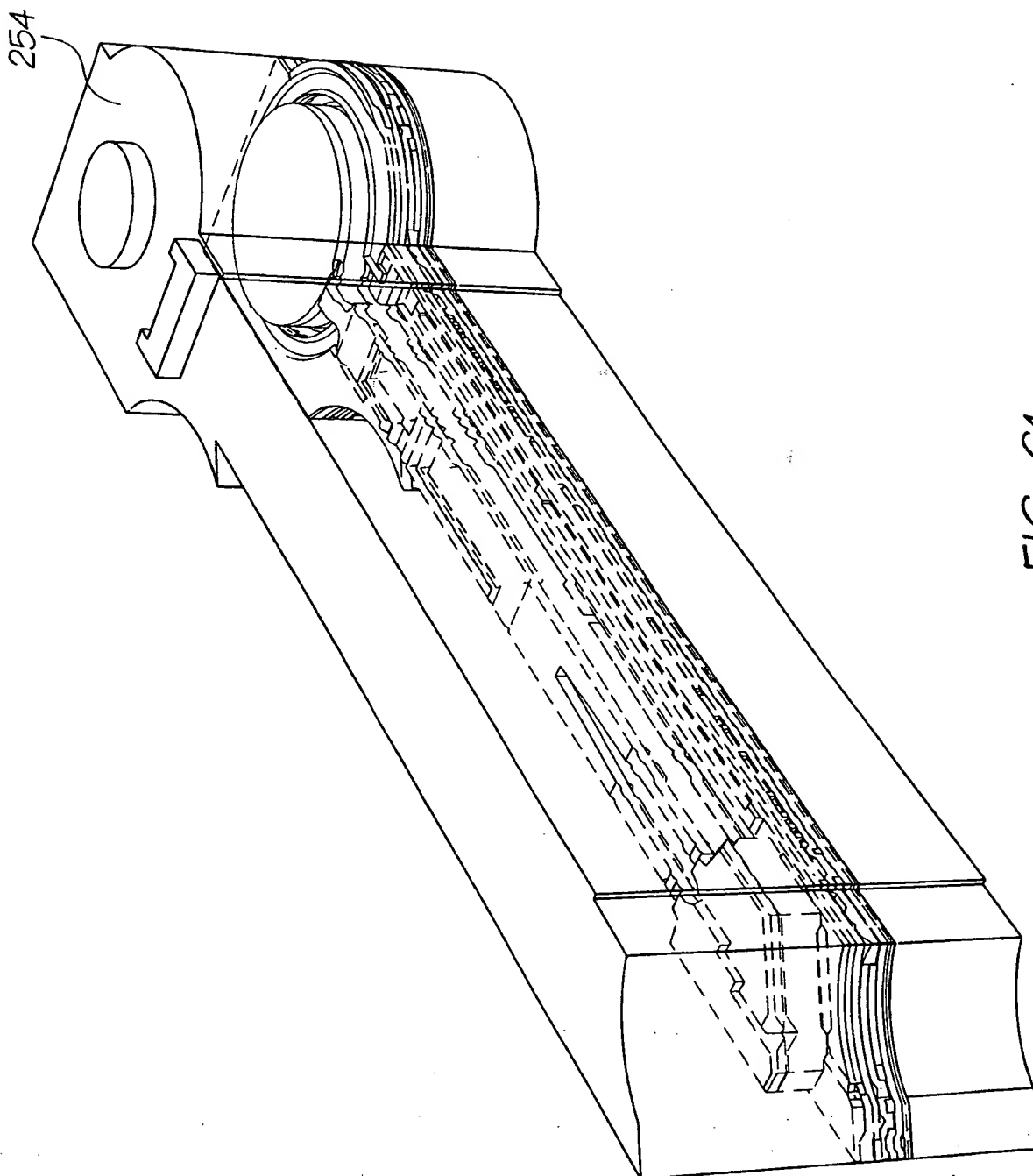


FIG. 61

T01E80" 26220860

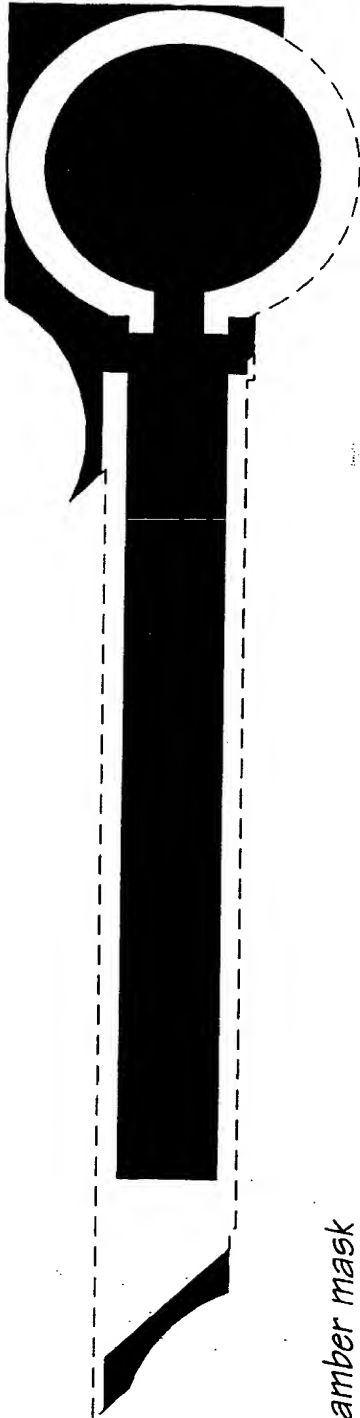
FIG. 62

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

PCT/AU99/00894

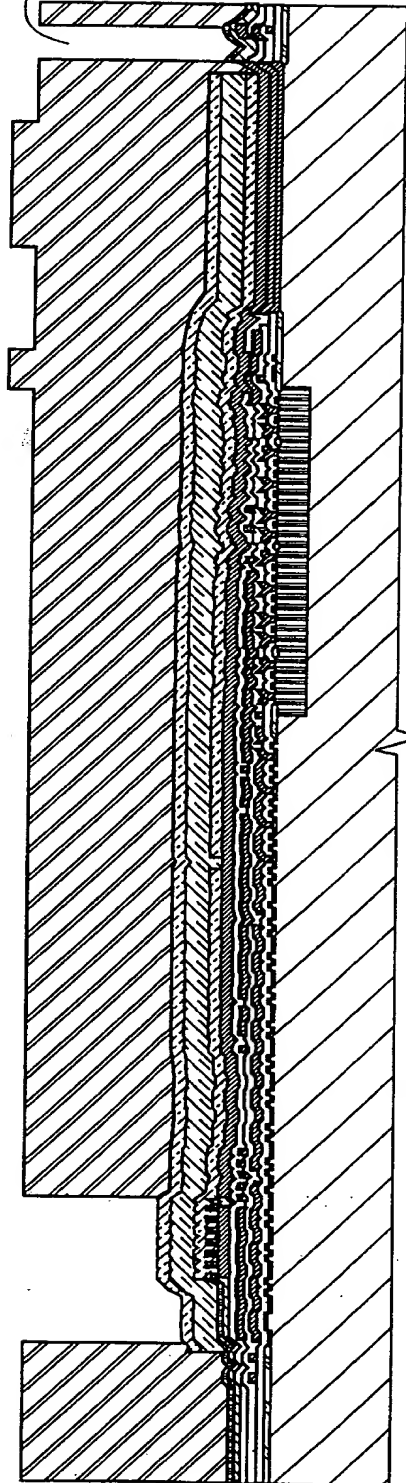
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Chamber mask

FIG. 62

255



Etch chambers in sacrificial layer

FIG. 63

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

PCT/AU99/00894

09/00/0000

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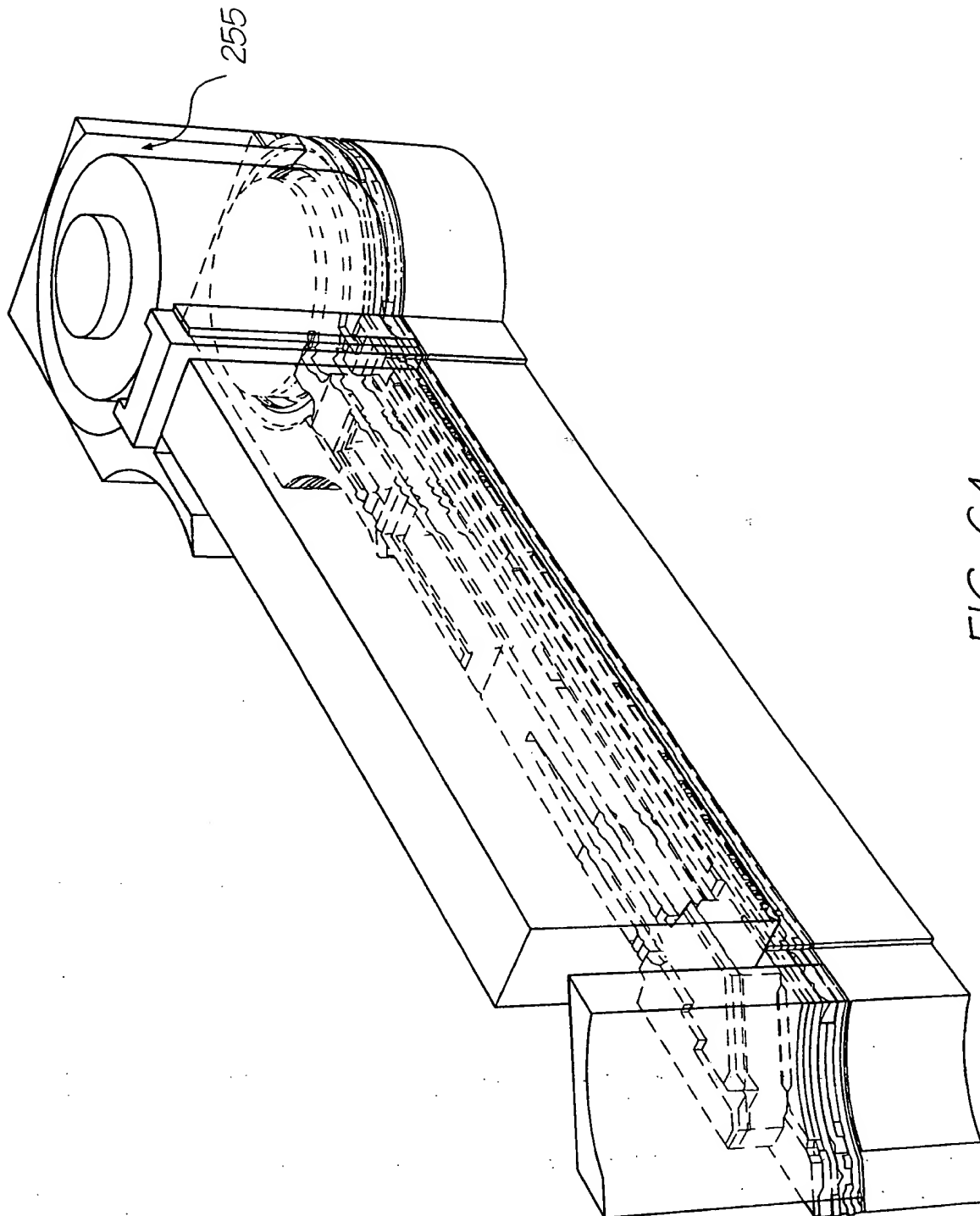


FIG. 64

TOTED 26220850

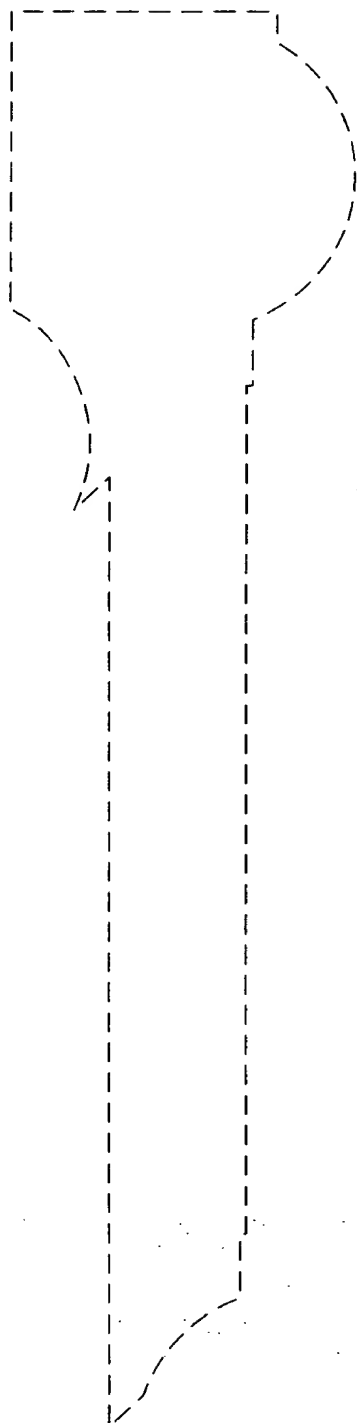
TOTERO 26220860

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

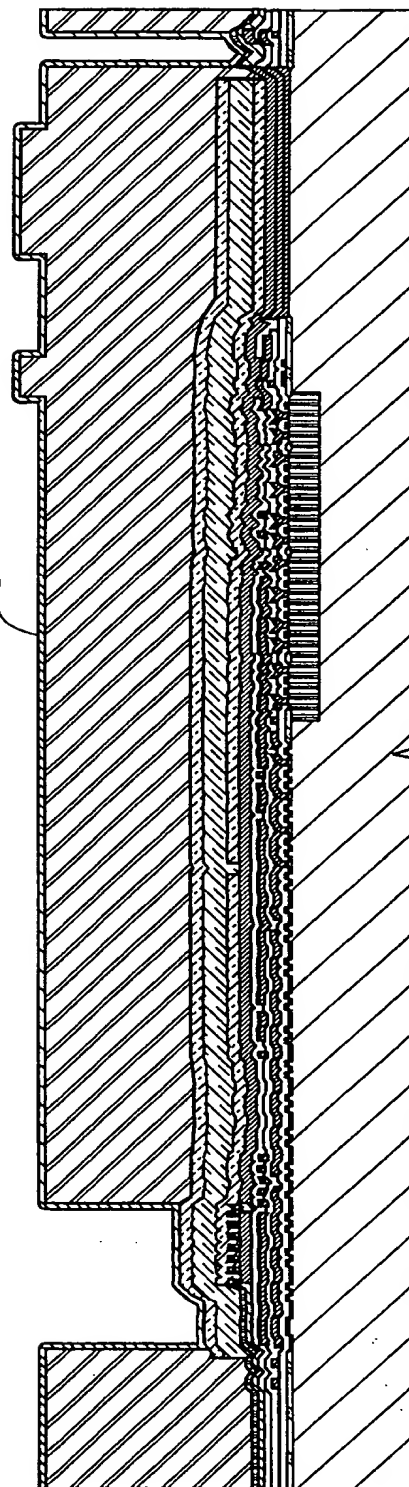
PCT/AU99/00894

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No mask

257



Deposit chamber walls

FIG. 65

APPROVED	O.G. FIG.
BY	CLASS/SUBCLAS
DRAFTSMAN	

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PCT/AU99/00894

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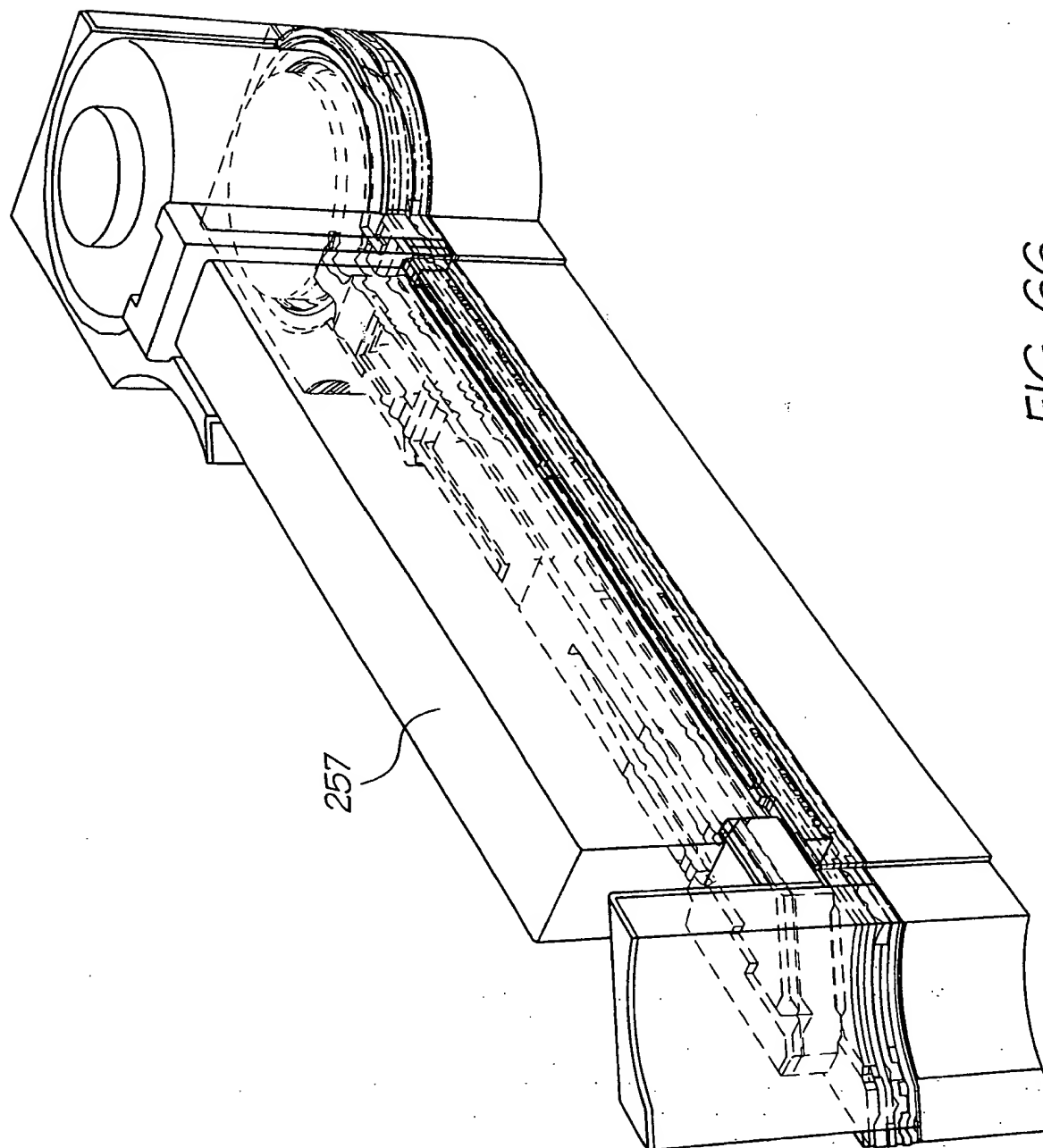
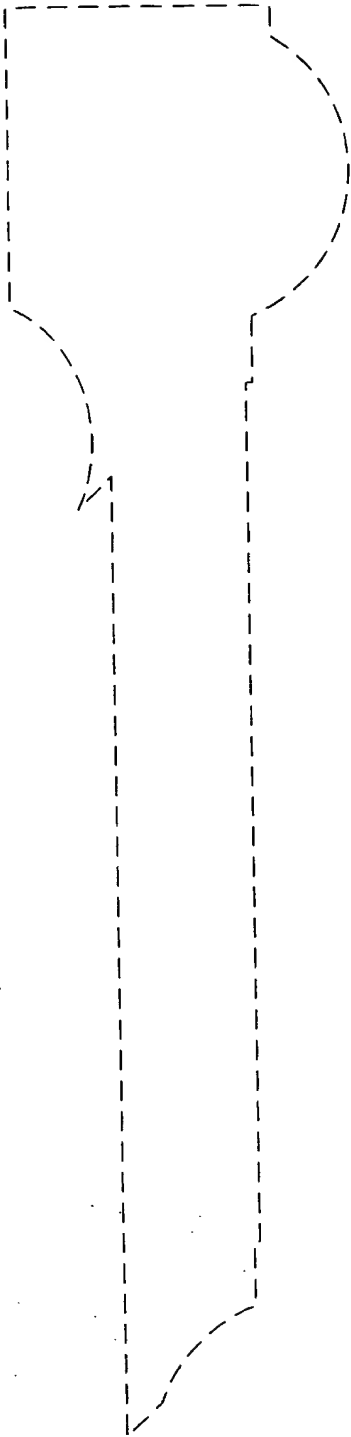


FIG. 66

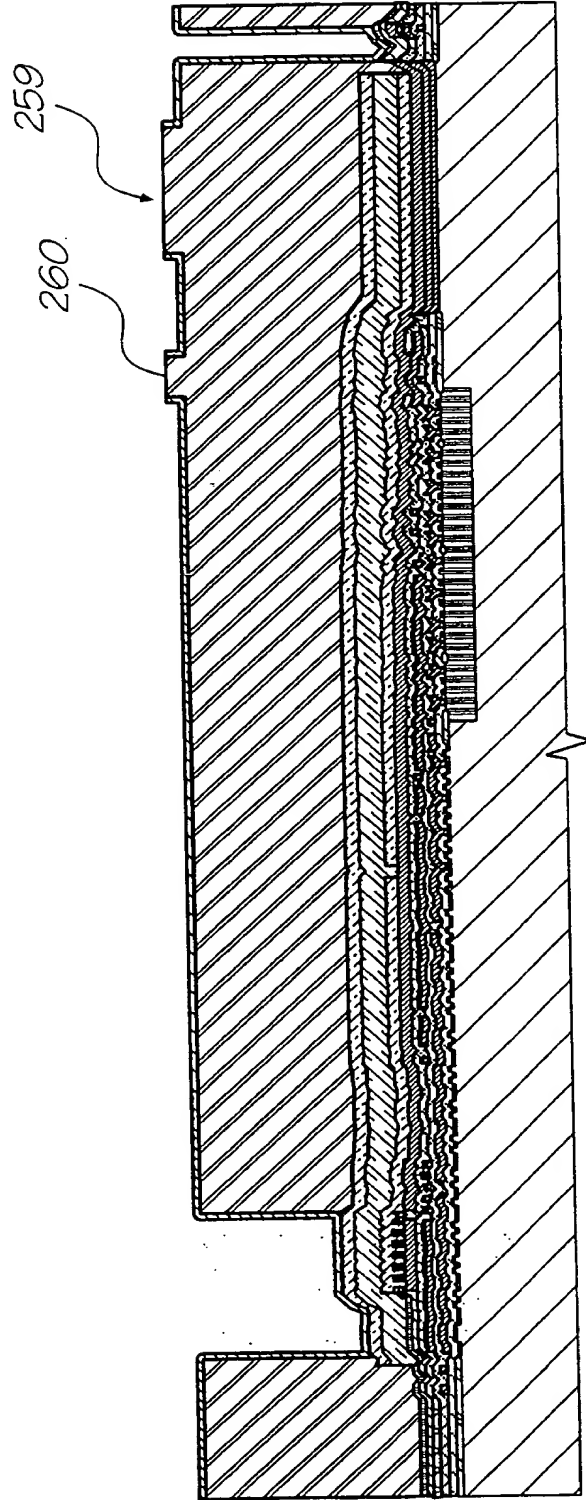
FIG. 66

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

FIG. 67



No mask



Form self-aligned nozzles using CMP

FIG. 67

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
CRAFTSMAN	

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FIG. 68

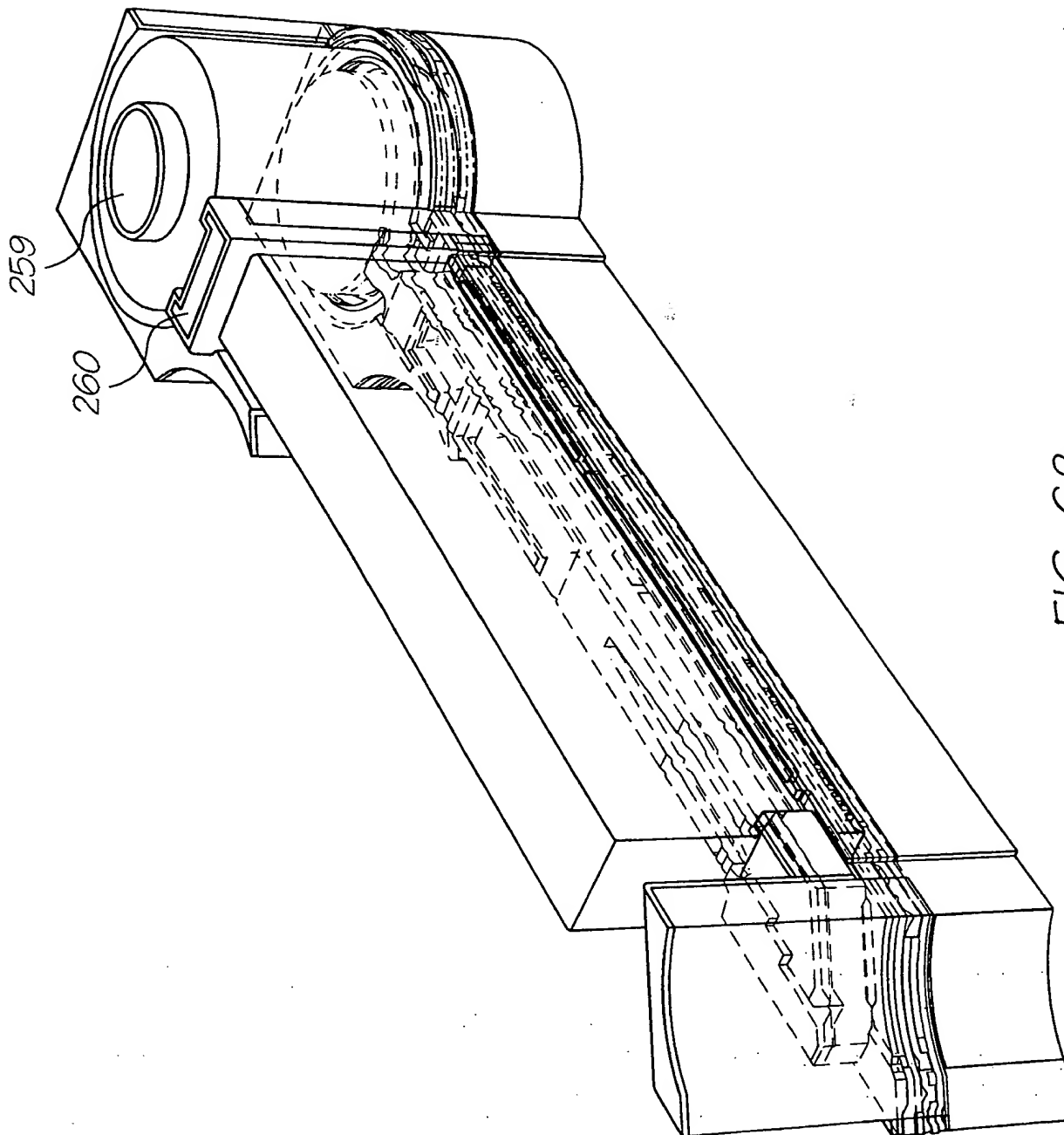


FIG. 68

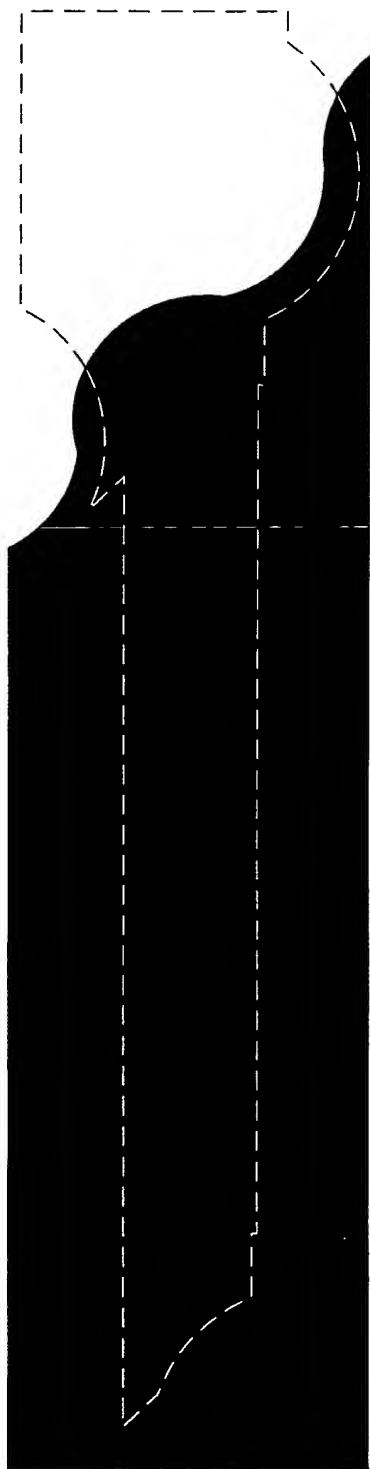
APPROVED	O.G. FIG.	CLASS	SUBCLASS
BY	DRAFTSMAN		

FIG. 69

WO 00/23279

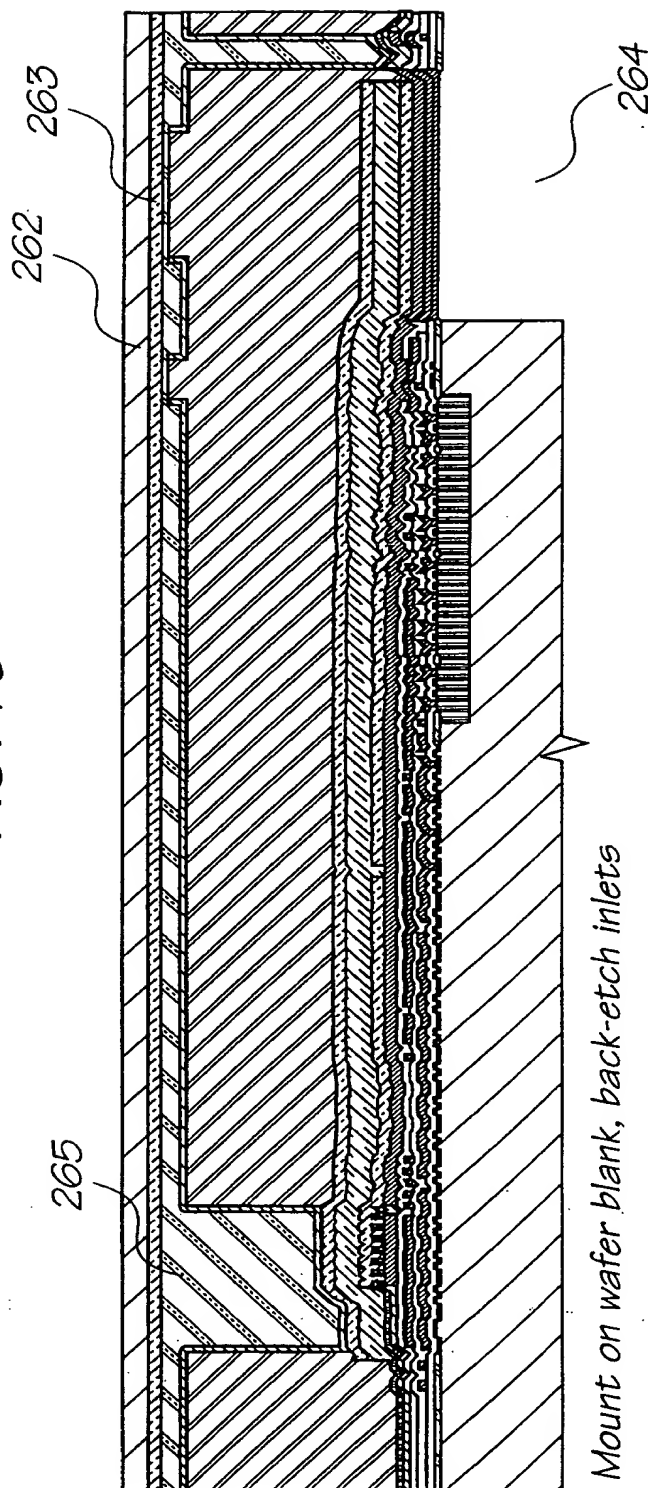
PCT/AU99/00894

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Back-etch inlet mask

FIG. 70



Mount on wafer blank, back-etch inlets

FIG. 69

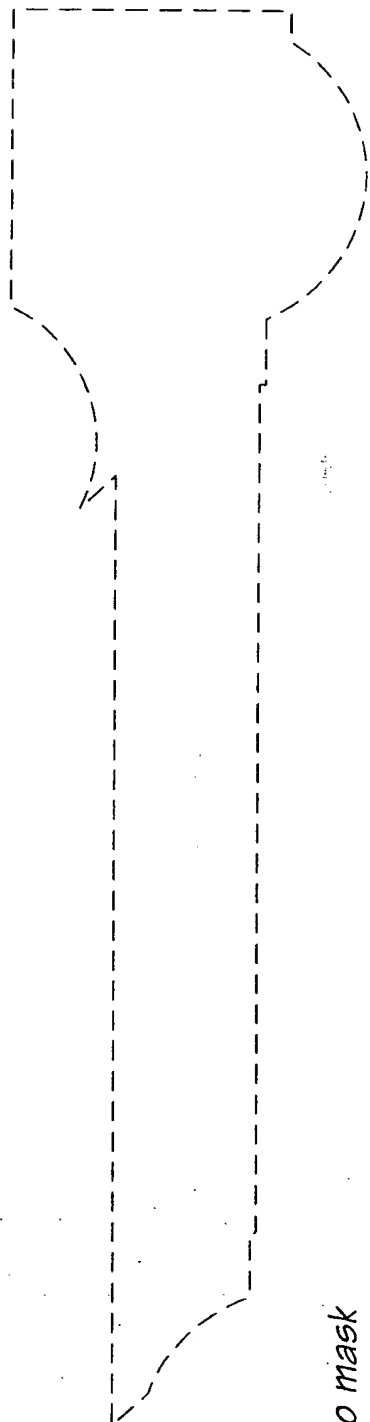
FIG. 70

APPROVED	FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

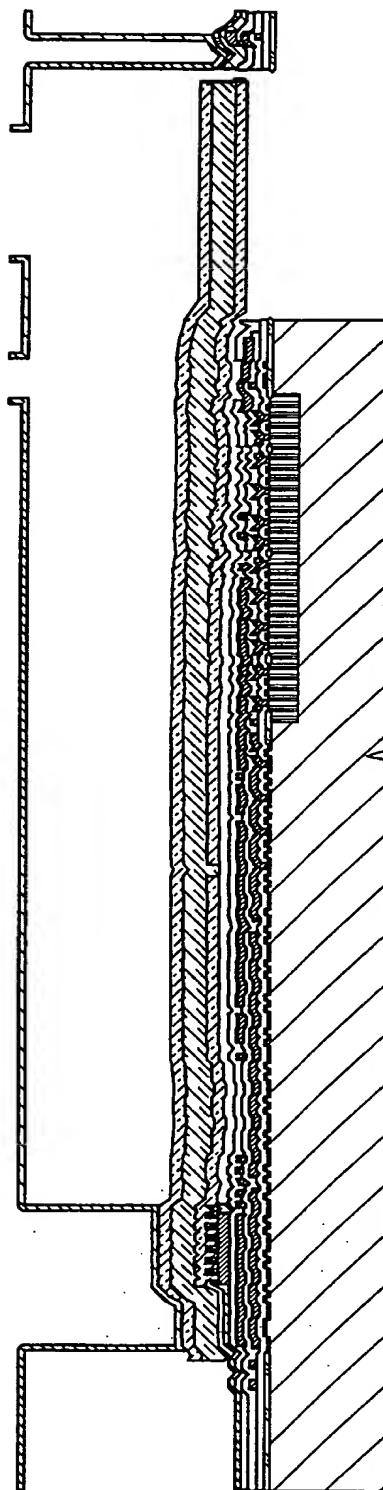
WO 00/23279

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No mask



Detach from wafer blank, etch sacrificial material

FIG. 71

APPROVED	O.G. FIG.
BY	CLASS 305CLASS
DRAFTSMAN	

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FIG. 72

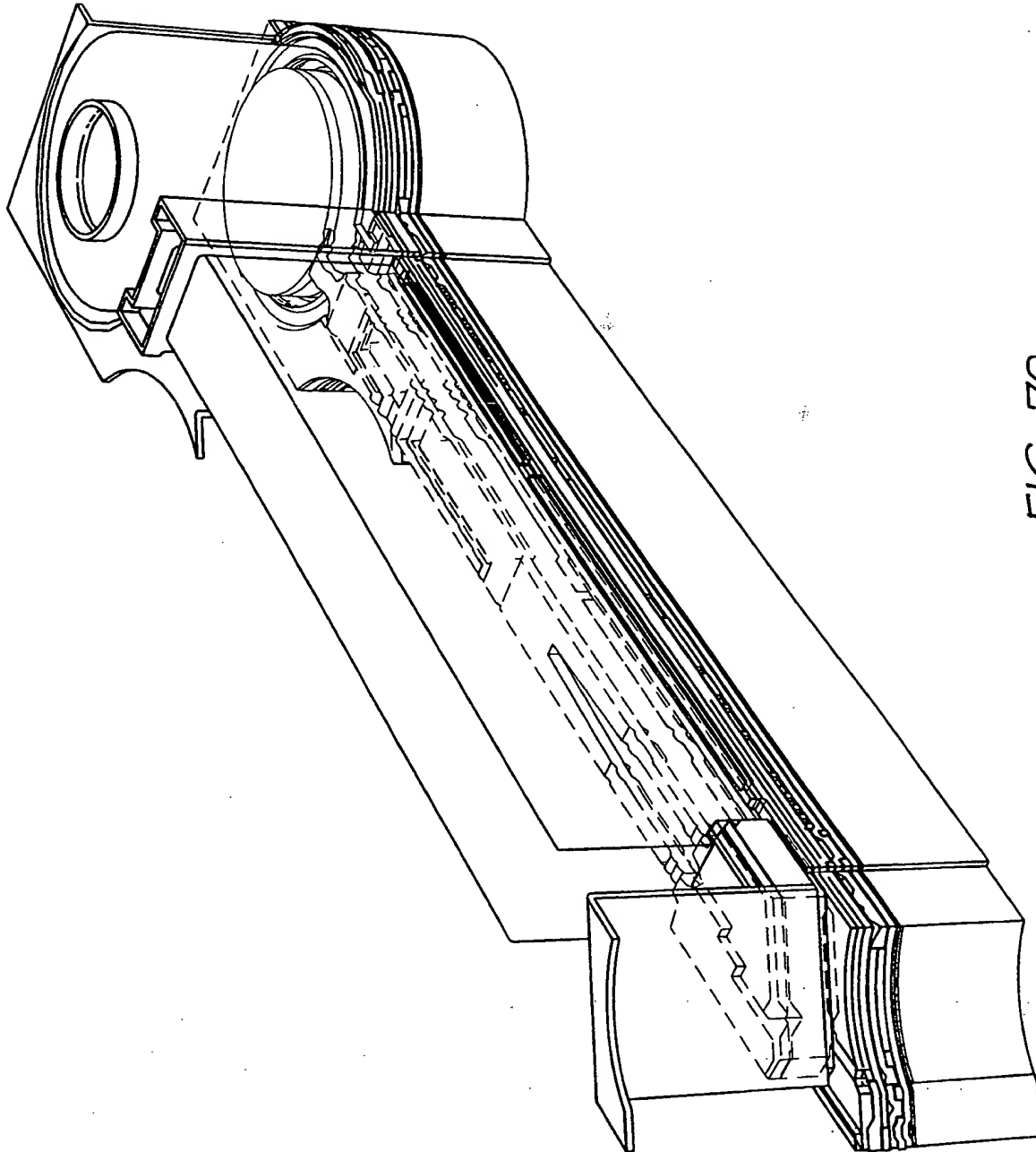


FIG. 72

APPROVED	C.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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PCT/AU99/00894

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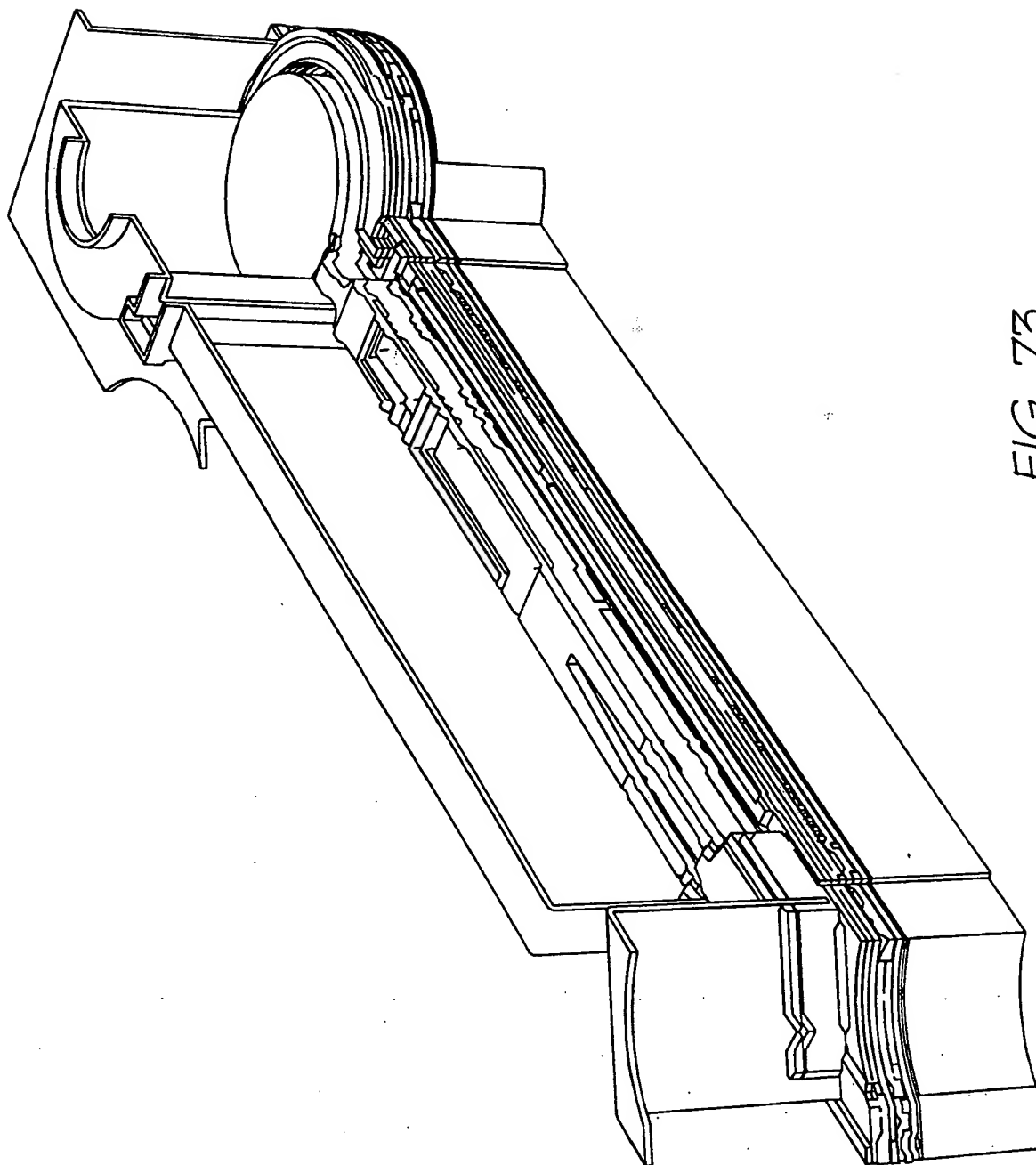


FIG. 73

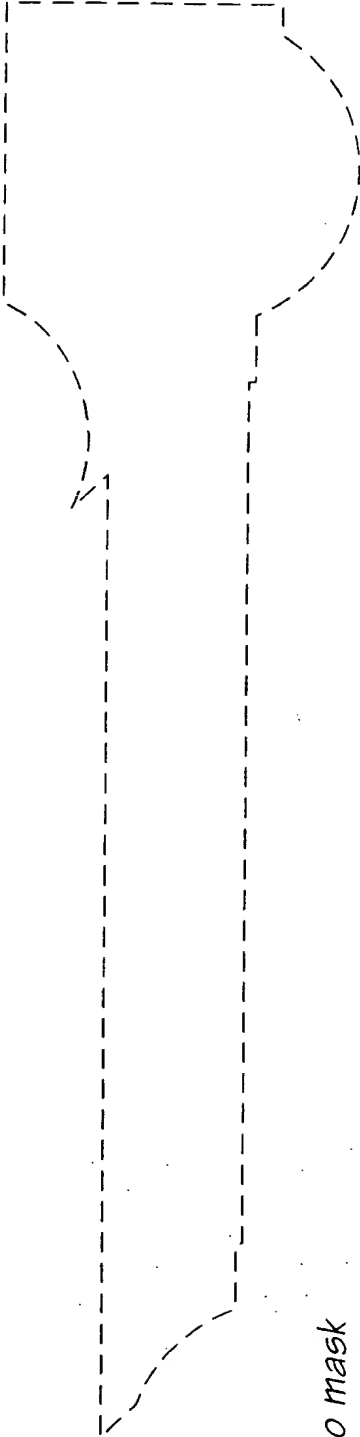
APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

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TOTERO 46220260



No mask

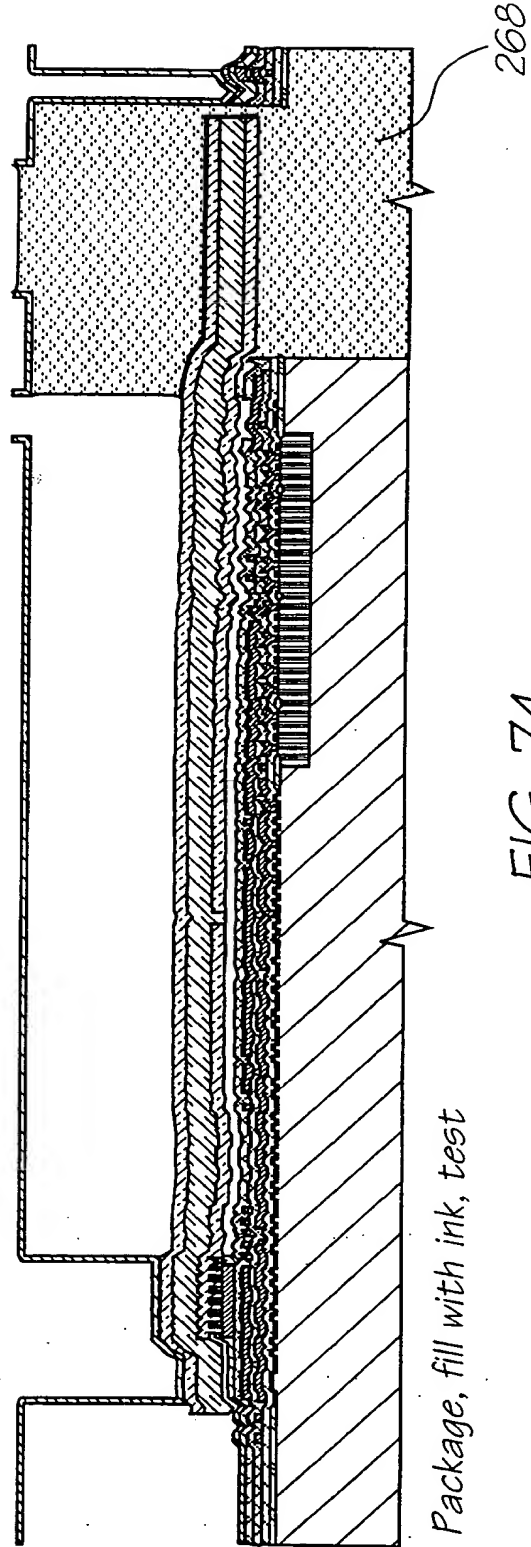


FIG. 74

Package, fill with ink, test

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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FIG. 75

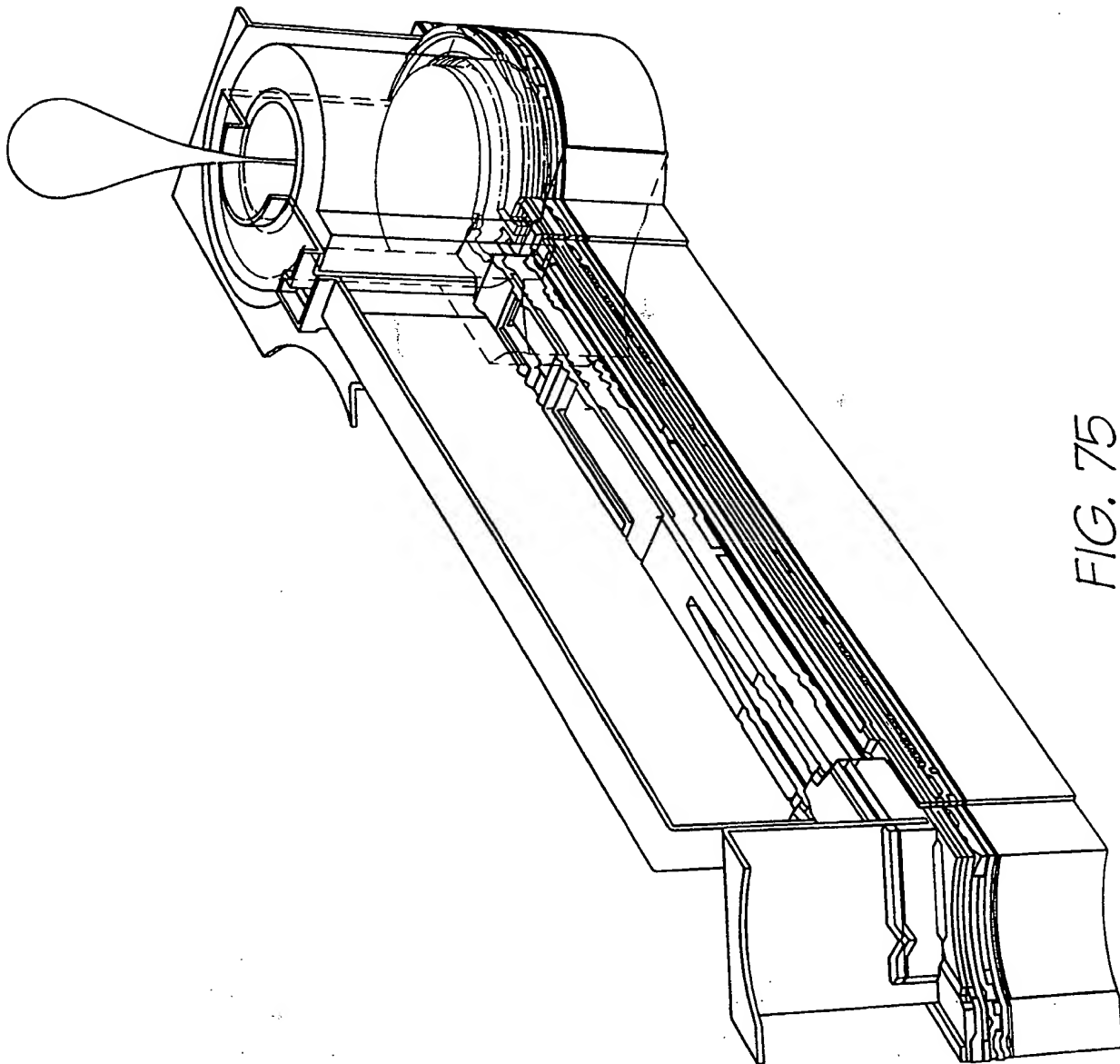


FIG. 75

APPROVED: C.G. FIG.	CLASS/SUBCLASS
BY	
DRAFTSMAN	

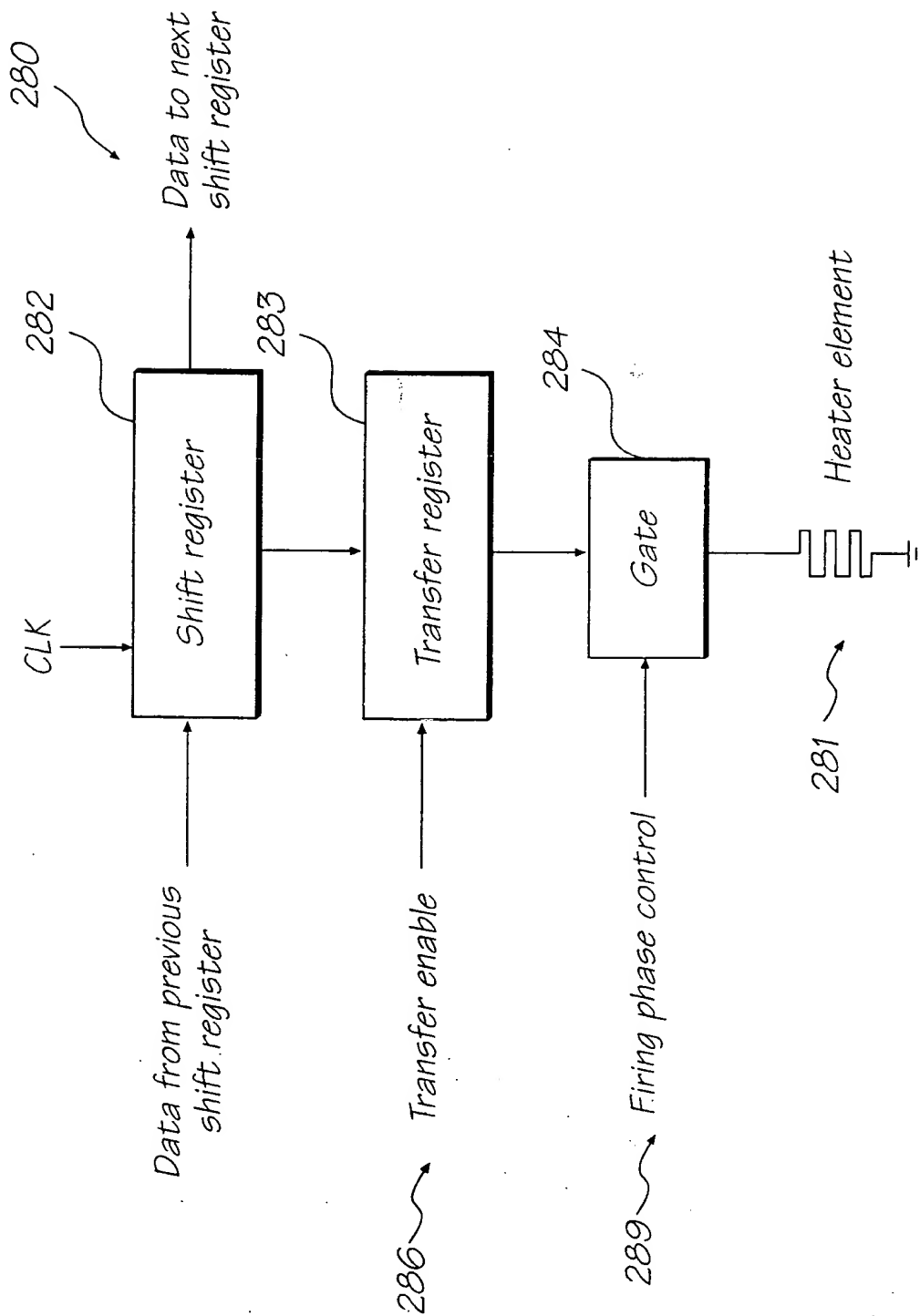


FIG. 76

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

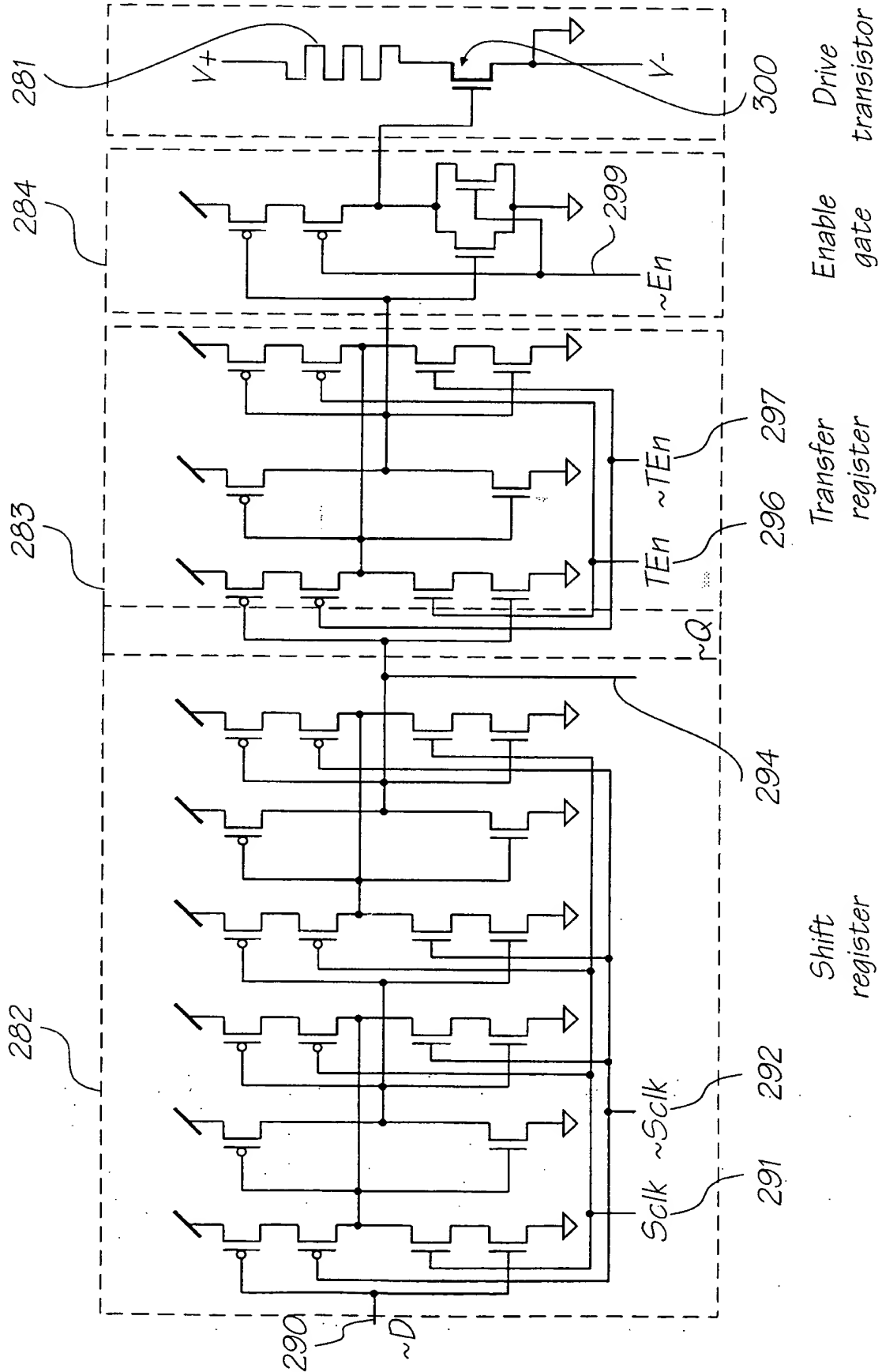


FIG. 77

APPROVED: C.G. FIG.	
BY	CLASS
DRAFTSMAN	

Key



























	Silicon		Poly		Via 2		Actuator TiN		Cyan Ink
			Contacts		Metal 3		Actuator Glass		Magenta Ink
	Active		Metal 1		Via 3		Compensator TiN		Yellow Ink
	p+		Via 1				Sacrificial		
	n+		Metal 2				Sacrificial-nozzle		
									Floor
									Wall
									Roof
									Rim
									Shroud

FIG. 78

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APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
CRAFTSMAN	

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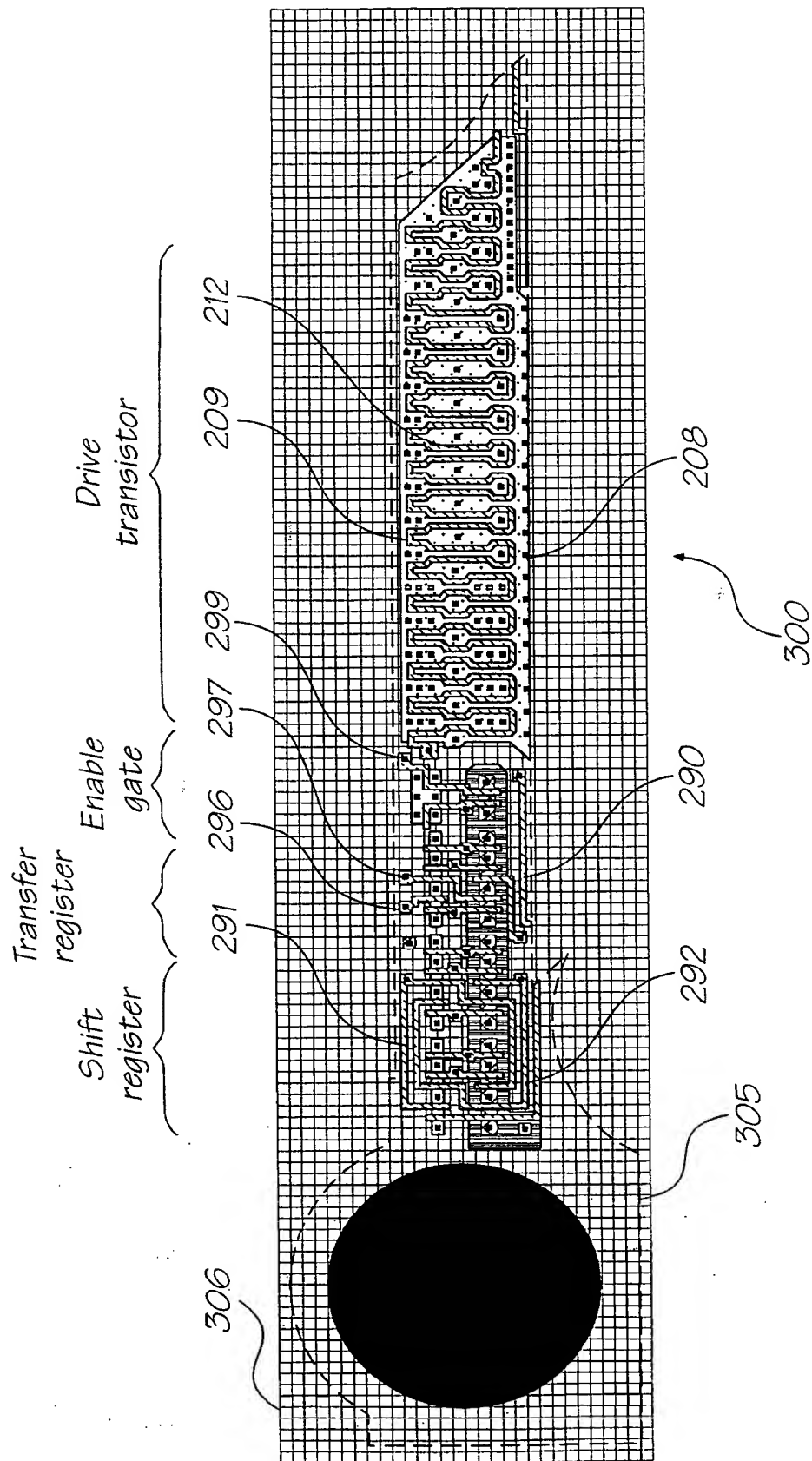


FIG. 79

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APPROVED	O.G. FIG.
BY	CLASS. CLASS.
DRAFTSMAN	

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296 297

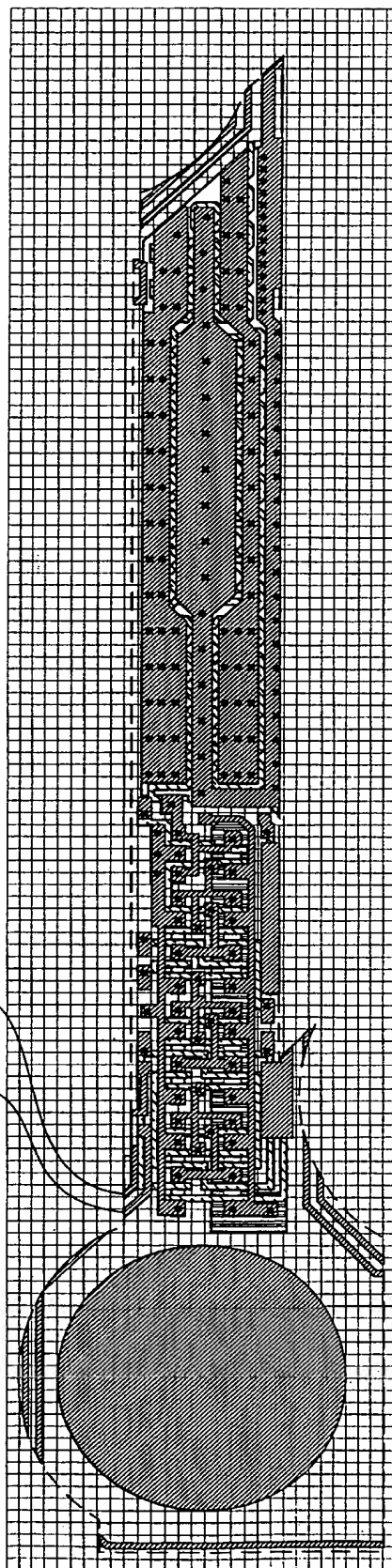


FIG. 80

FIG. 80 262/0860

APPROVED	C.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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PCT/AU99/00894

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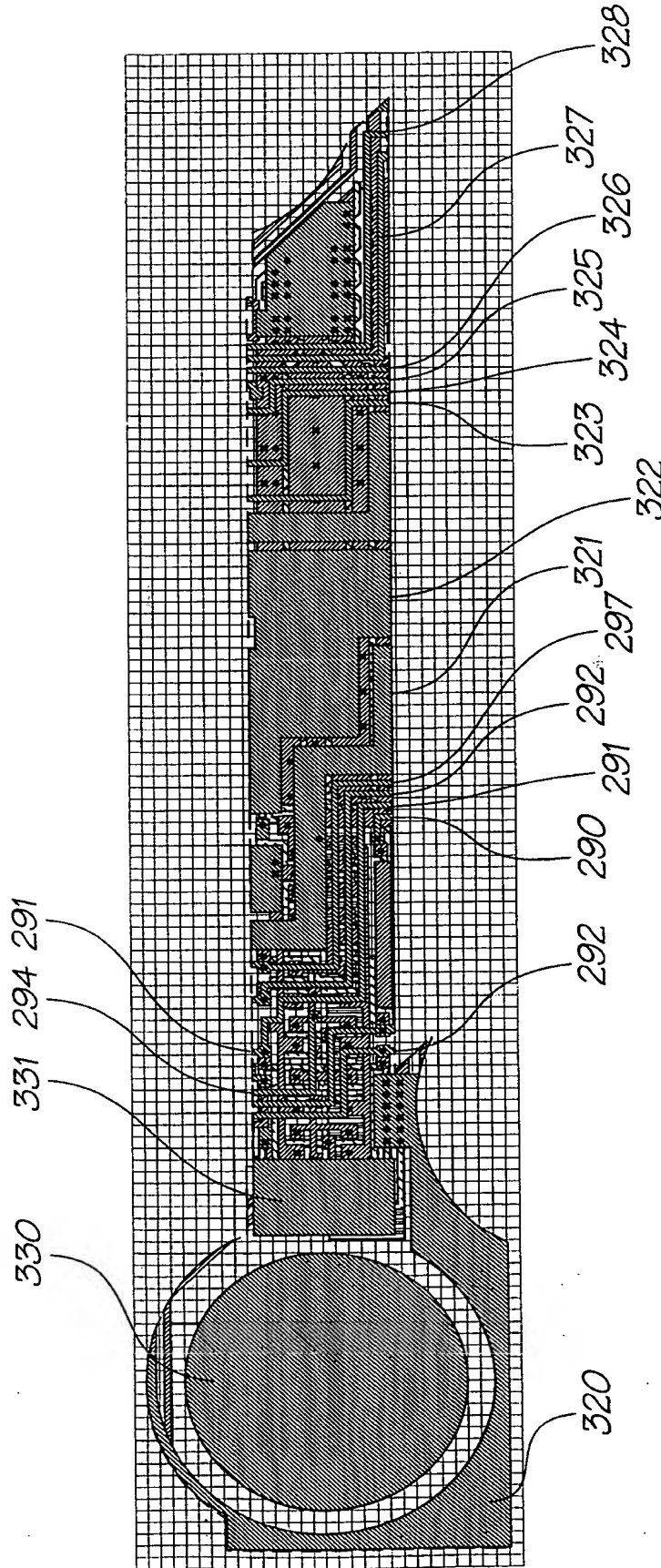


FIG. 81

TOTERO" 26220860

APPROVED	C.G.F.
BY	CLASS
DRAFTSMAN	DATE

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PCT/AU99/00894

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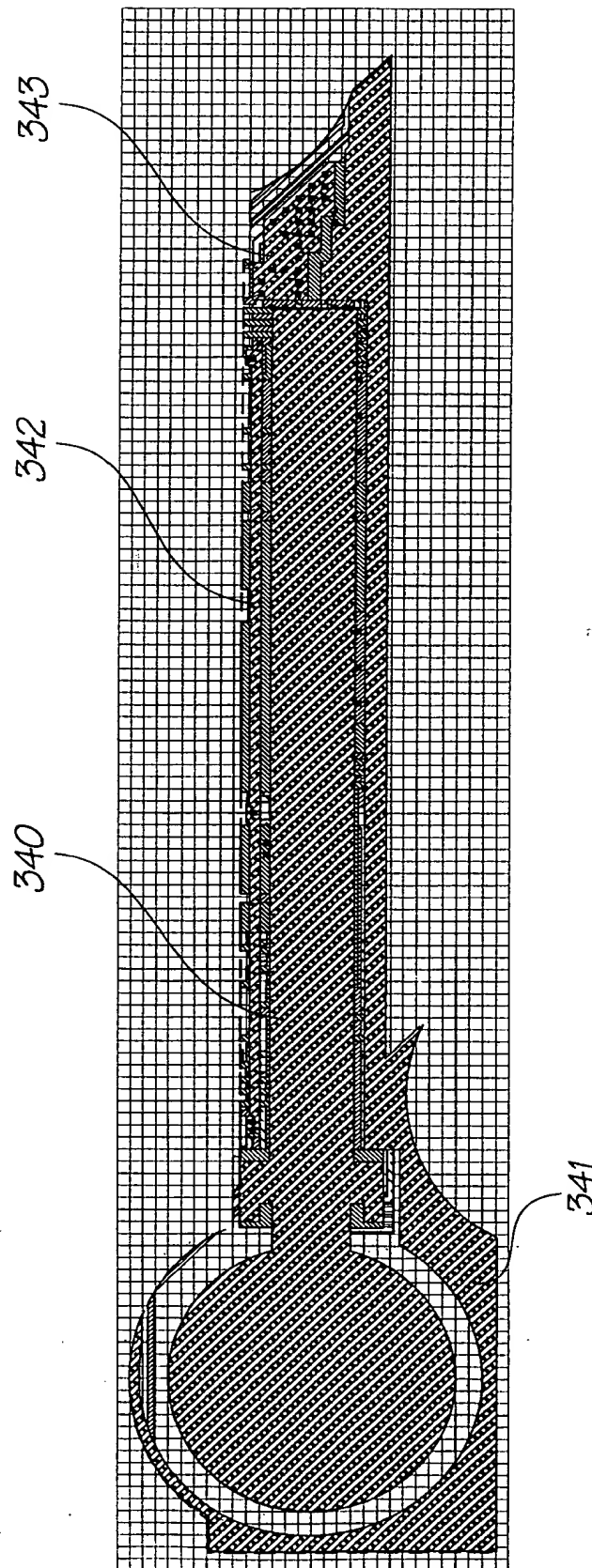


FIG. 82

FIG. 83

APPROVED	C. J. F. G.
BY	CLASS, SUBCLASS
DRAFTSMAN	

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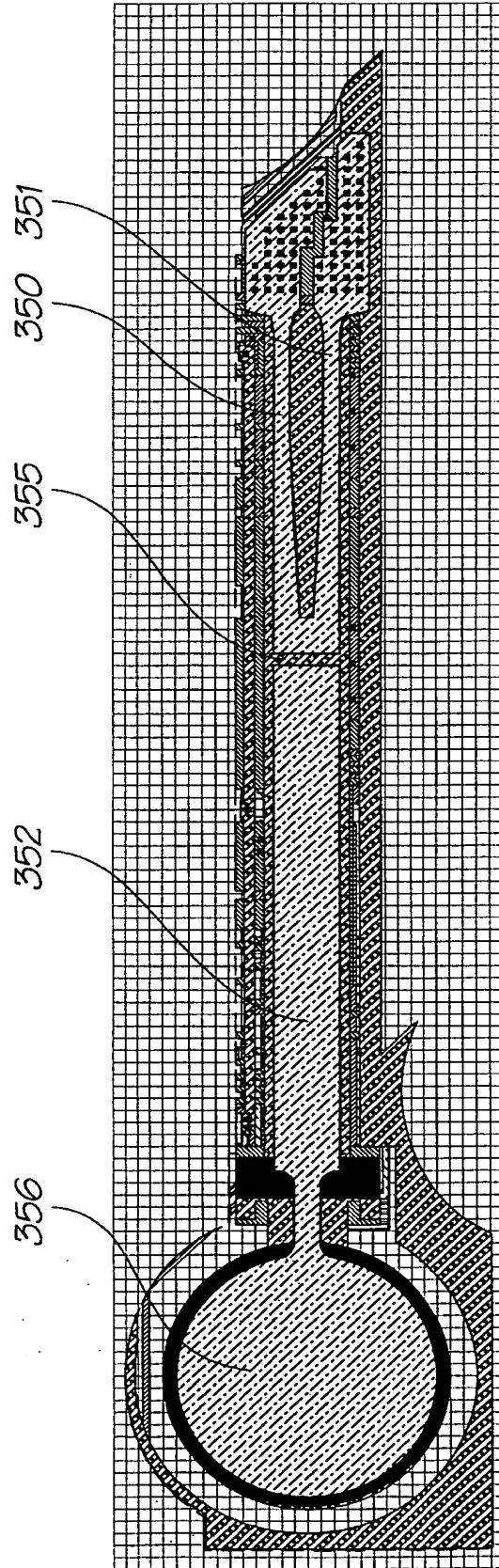


FIG. 83

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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PCT/AU99/00894

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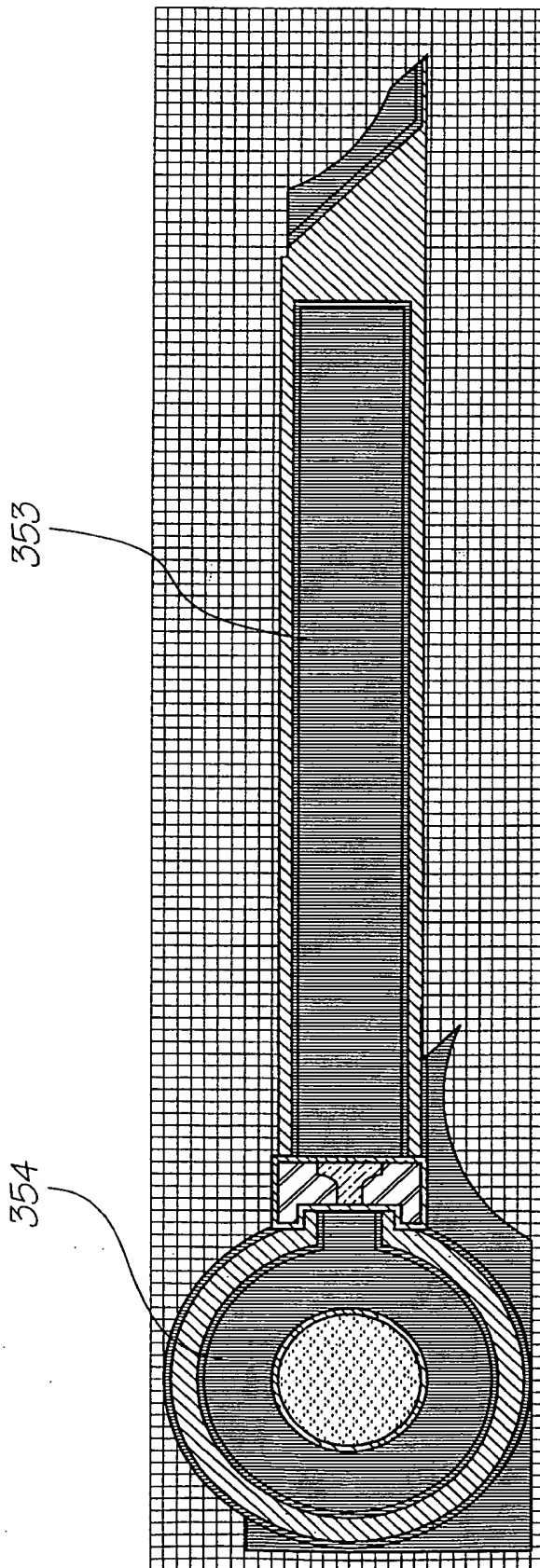


FIG. 84

FIG. 80" 46240860

APPROVED	FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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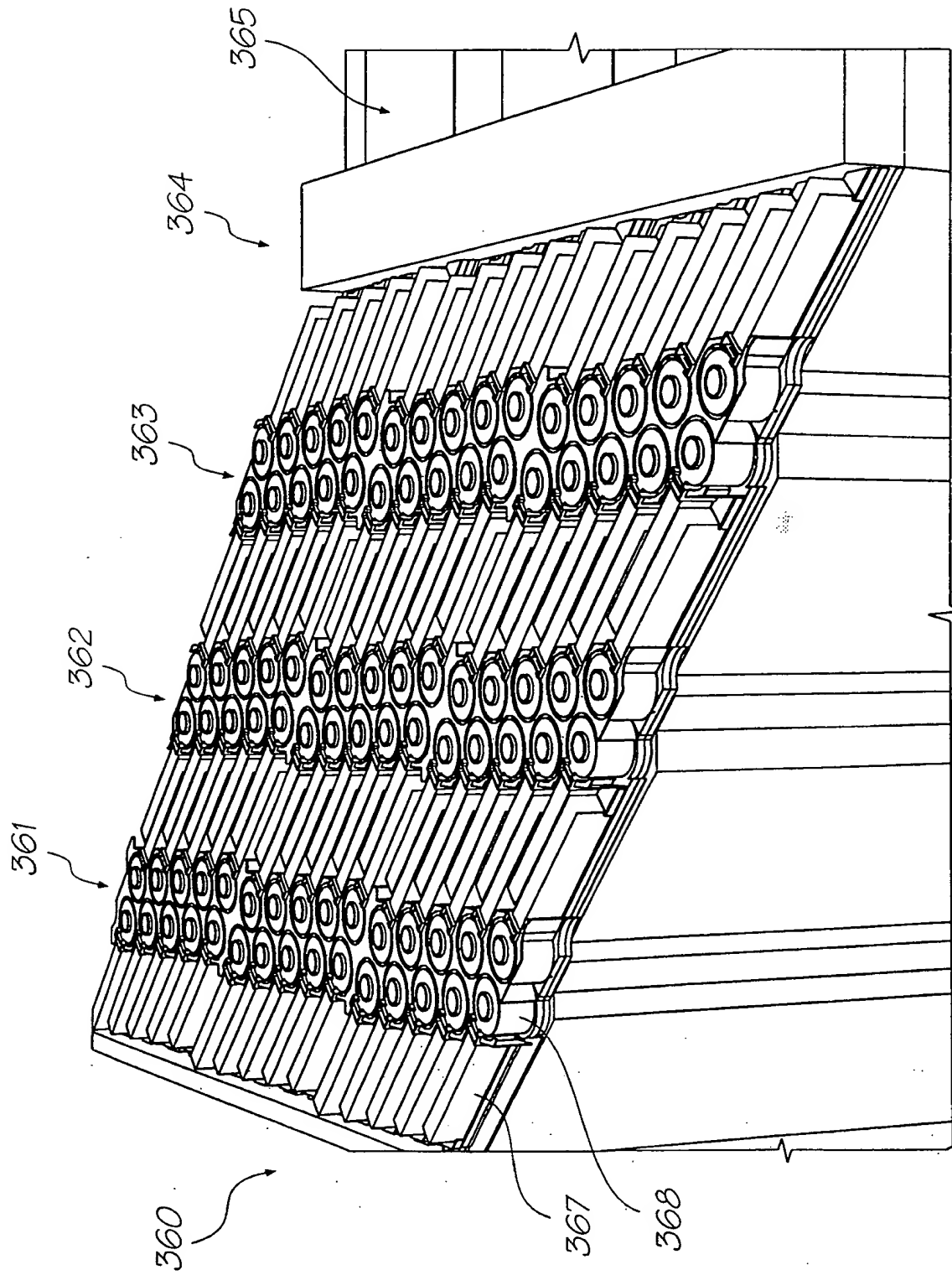


FIG. 85

TOTERO 46220860

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

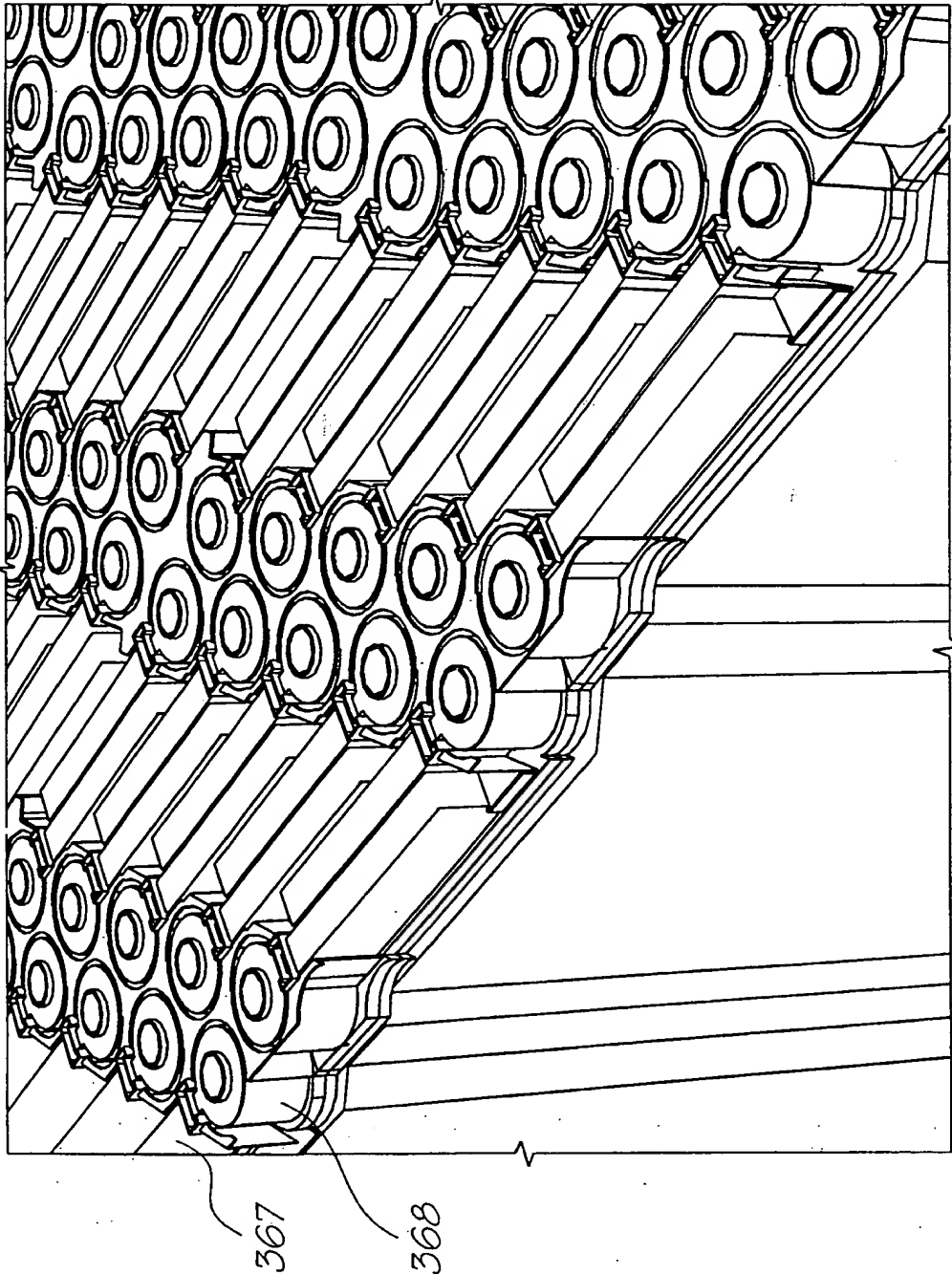


FIG. 86

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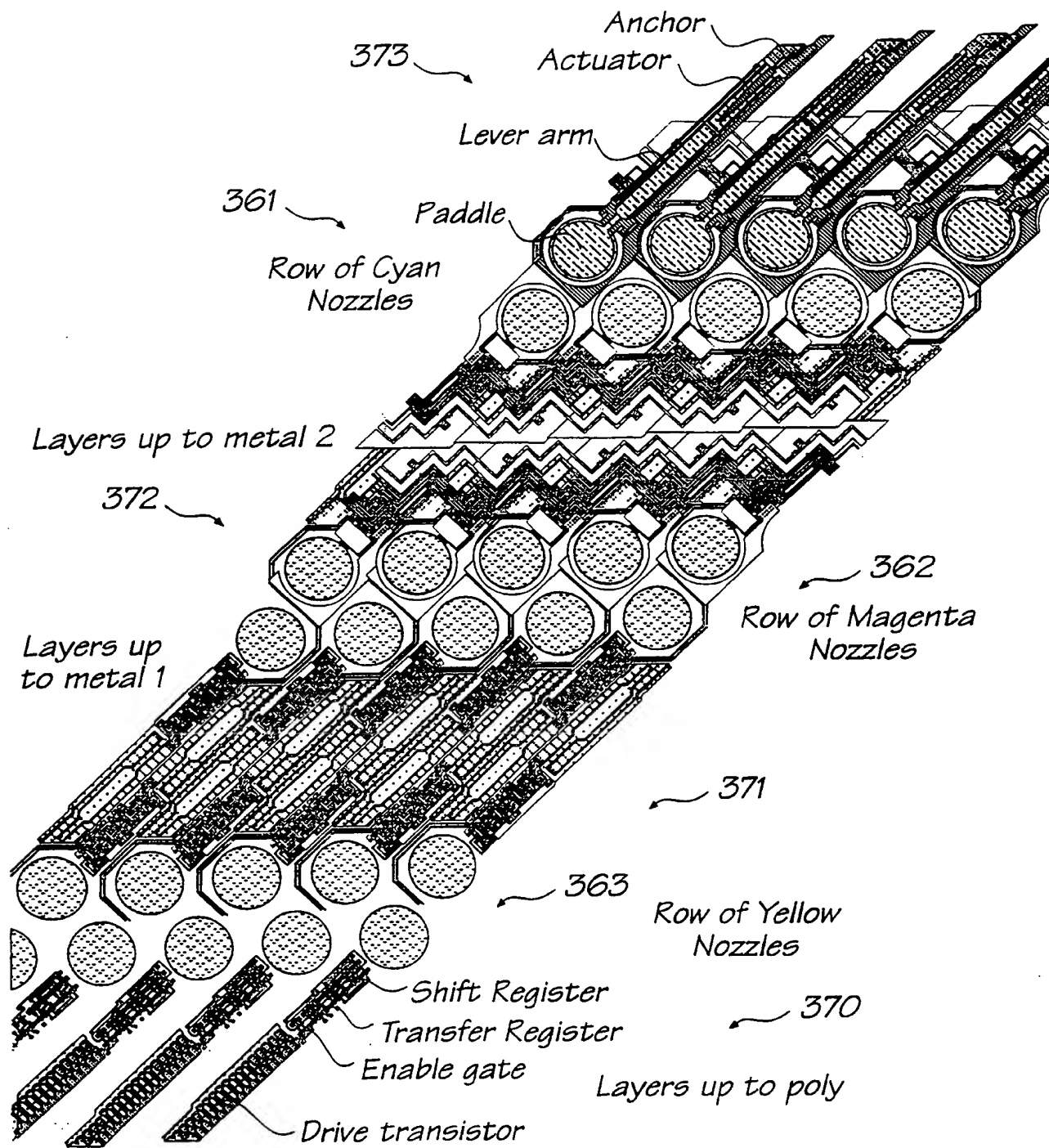


FIG. 87

APPROVED	O.G. FIG.	
	CLASS	SUBCLASS
BY		
DRAFTSMAN		

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PCT/AU99/00894

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FIG. 88

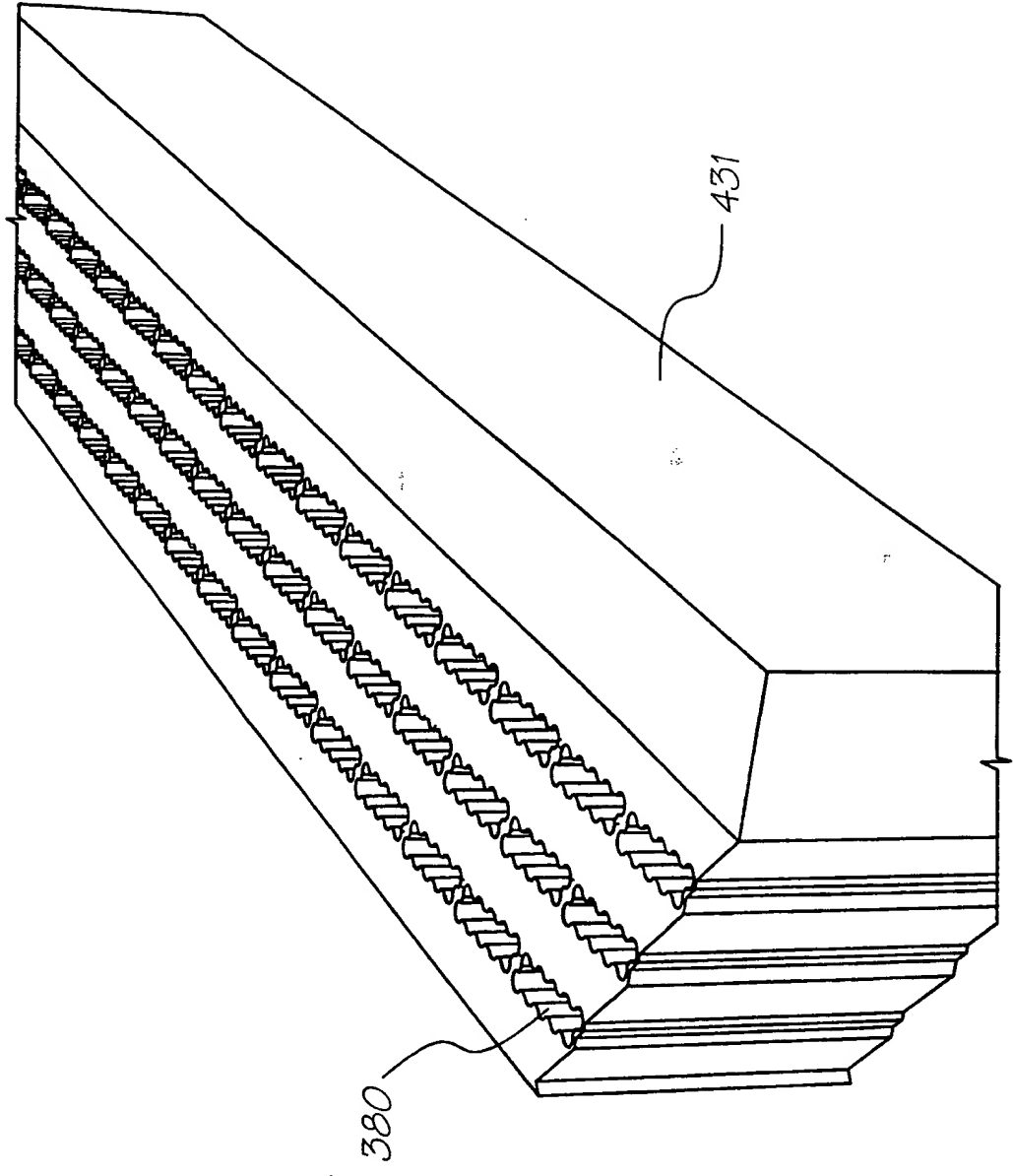


FIG. 88

FIG. 89

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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PCT/AU99/00894

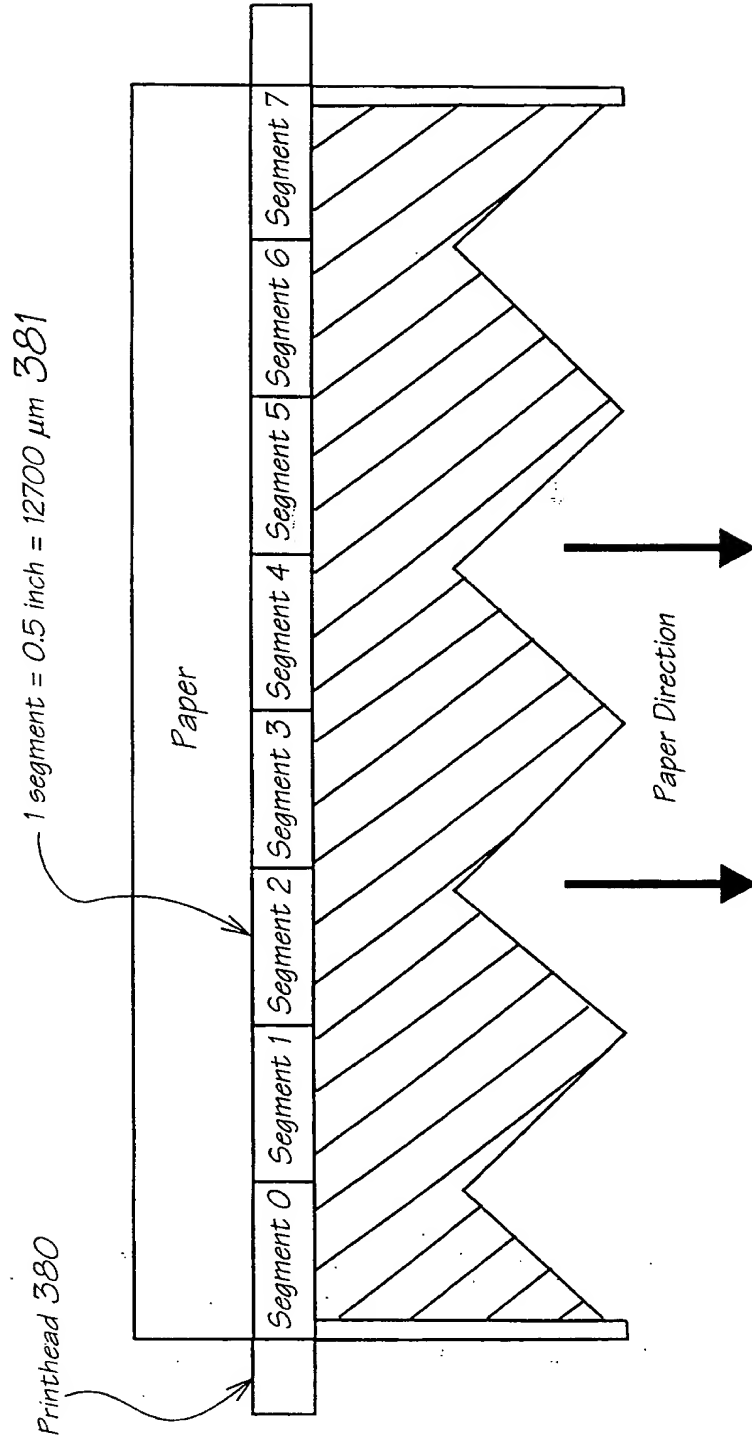
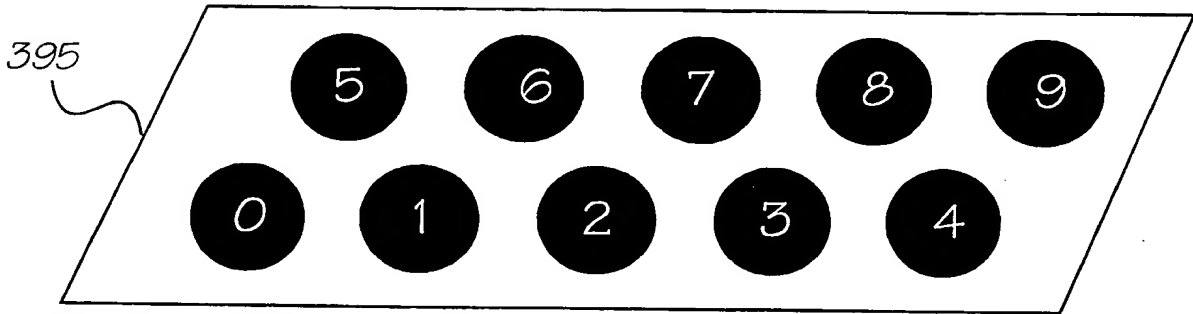


FIG. 89

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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A single pod, numbered by firing order

Fig. 90

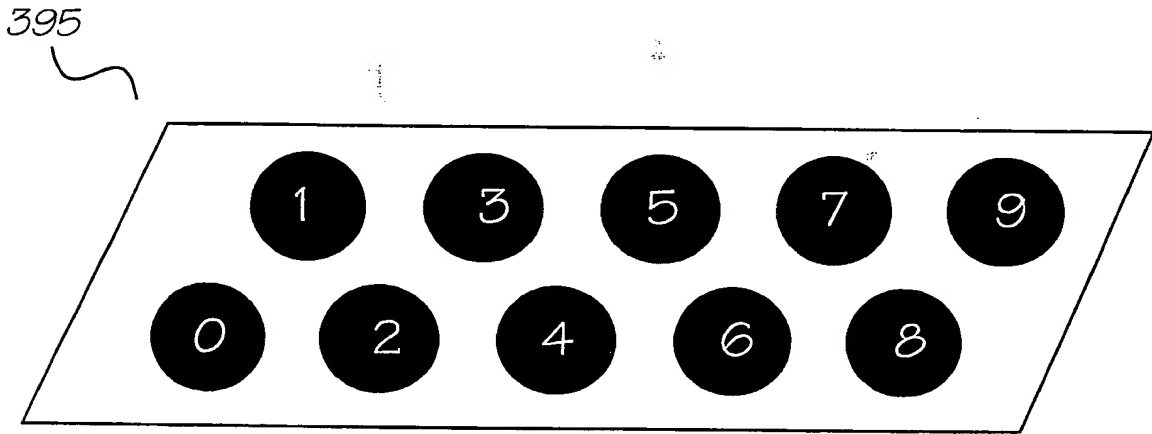


Fig. 91

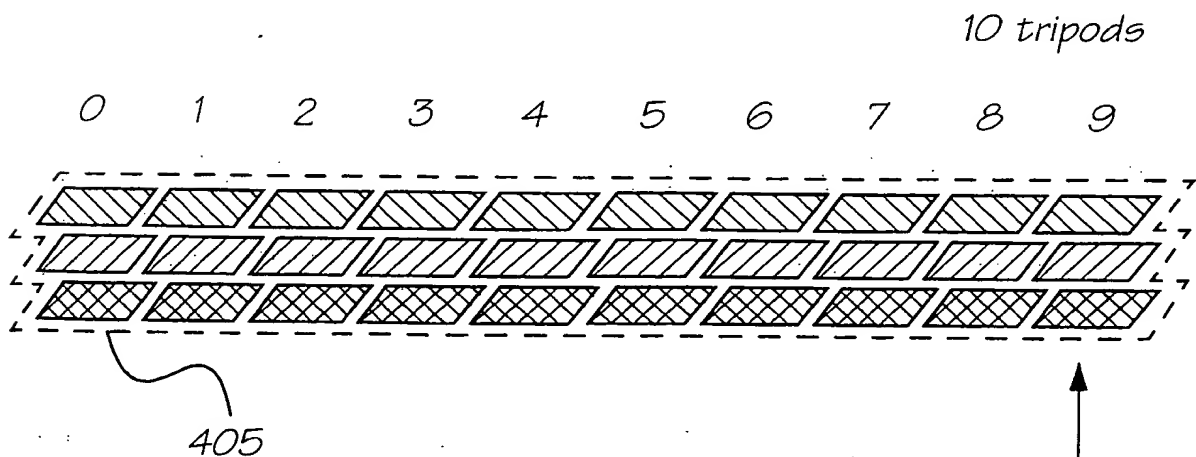


Fig. 93

APPROVED	O.G. FIG.
BY	CLASS, SUBCLASS
DRAFTSMAN	

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PCT/AU99/00894

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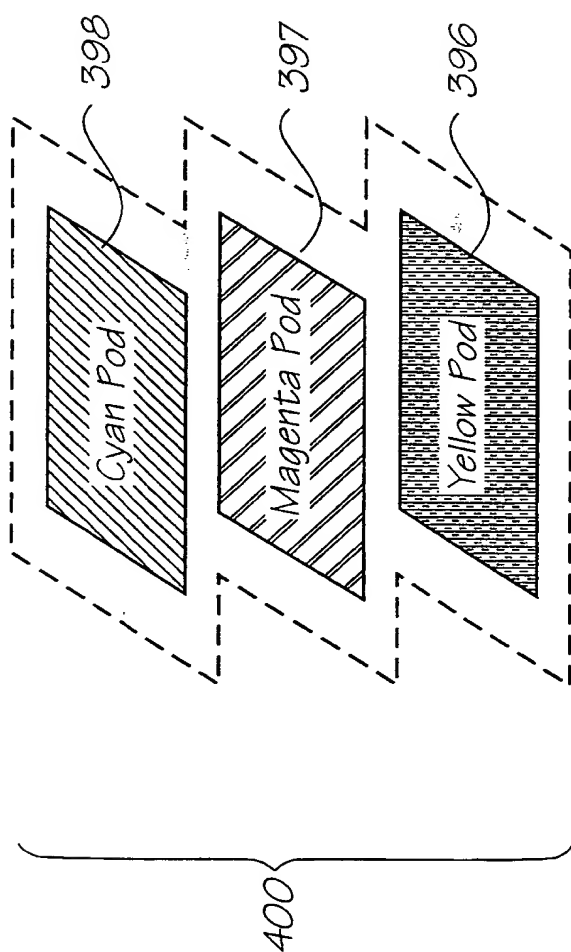


FIG. 92

TOTERO 26220860

FIG. 94

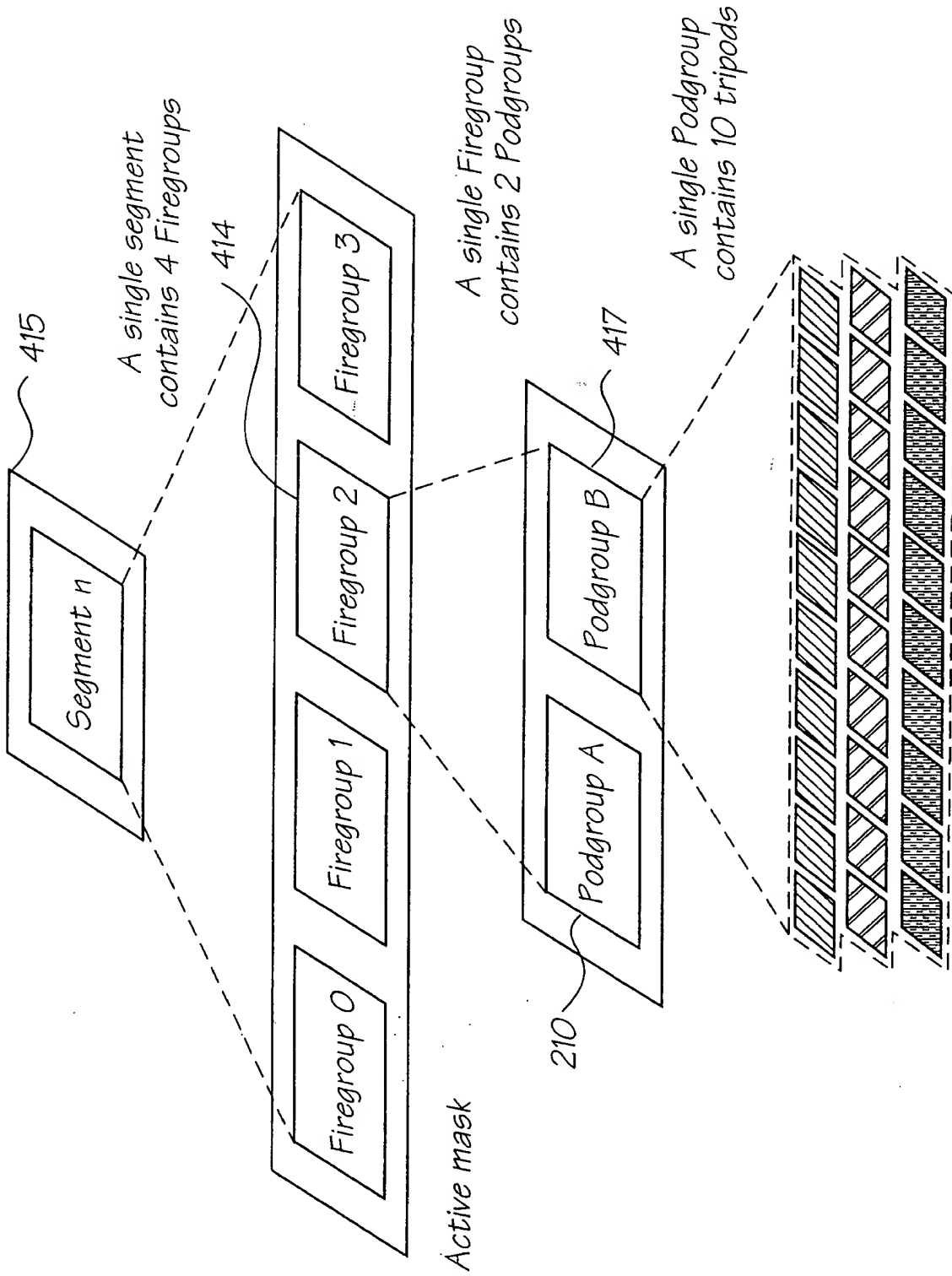


FIG. 94

T07E80" 46220860

APPROVED	C.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

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PCT/AU99/00894

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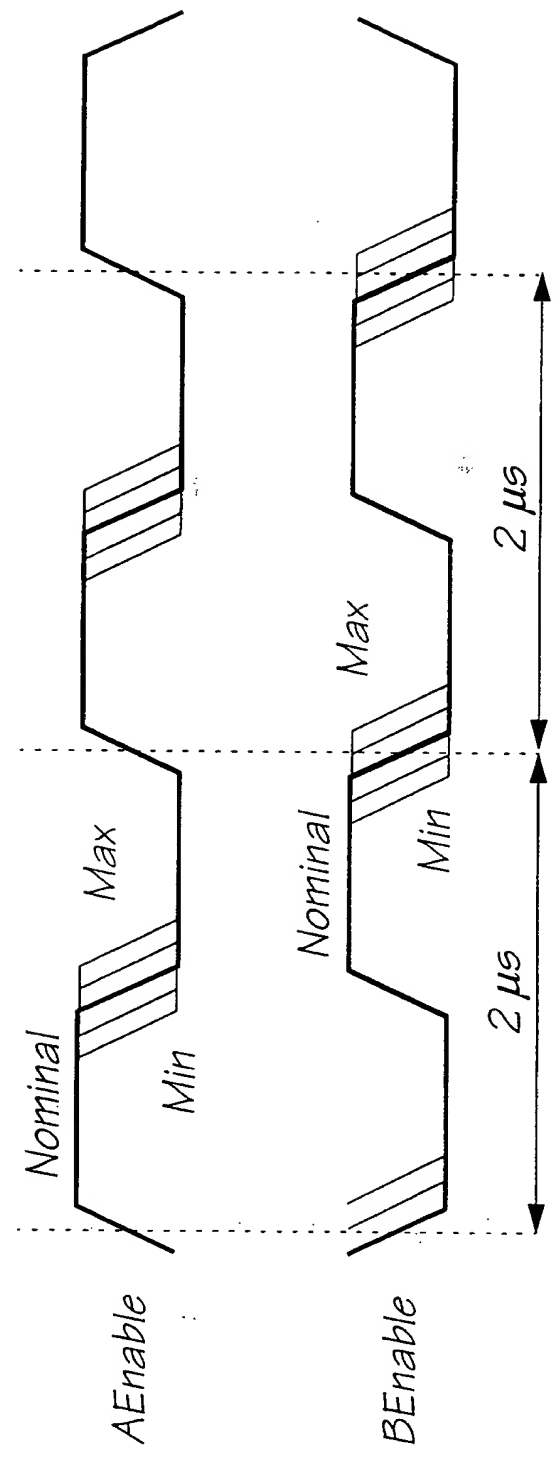


FIG. 95

APPROVED	O.G. FIG.
BY	CLASS. SUBCLASS
DRAFTSMAN	

WO 00/23279

PCT/AU99/00894

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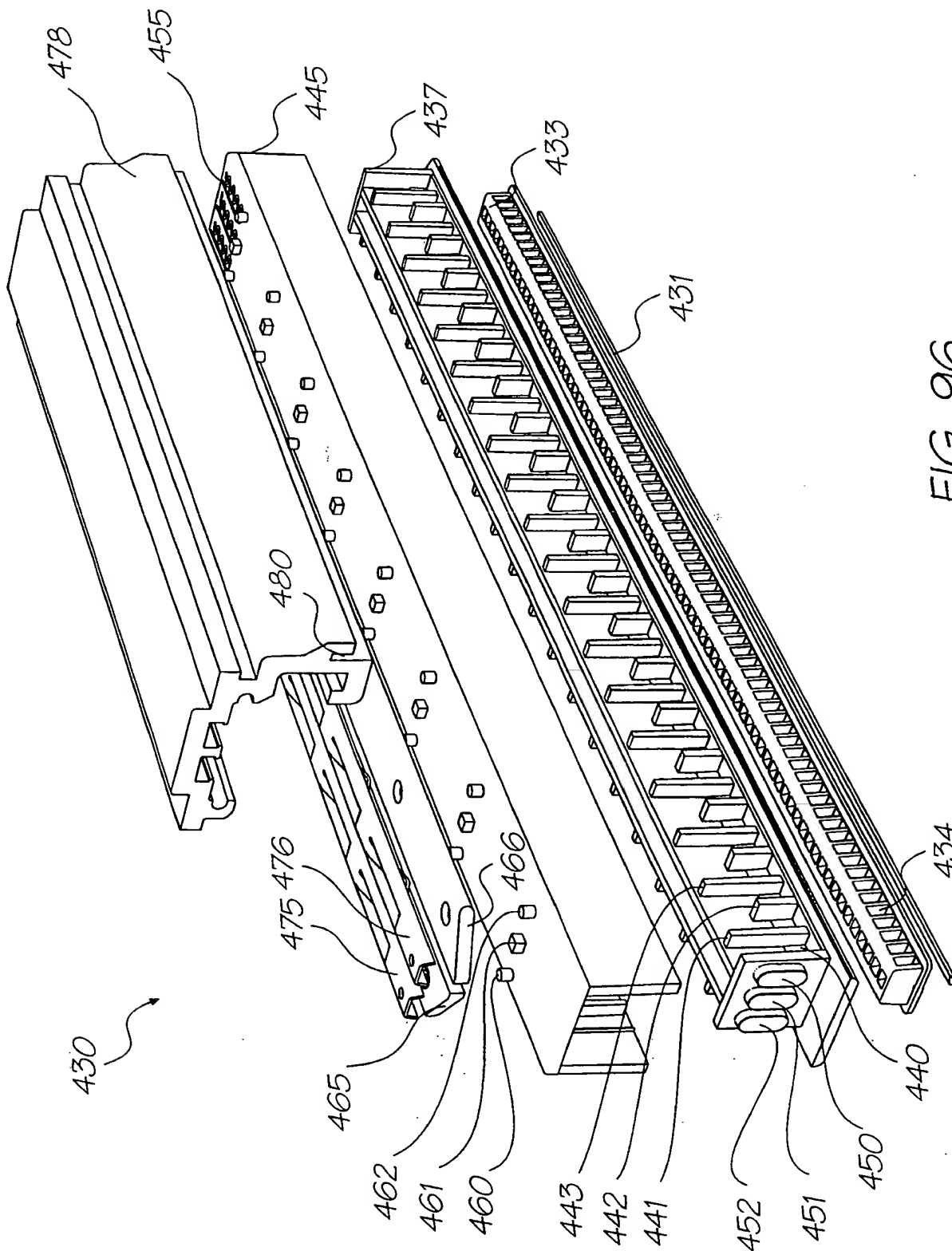


FIG. 96

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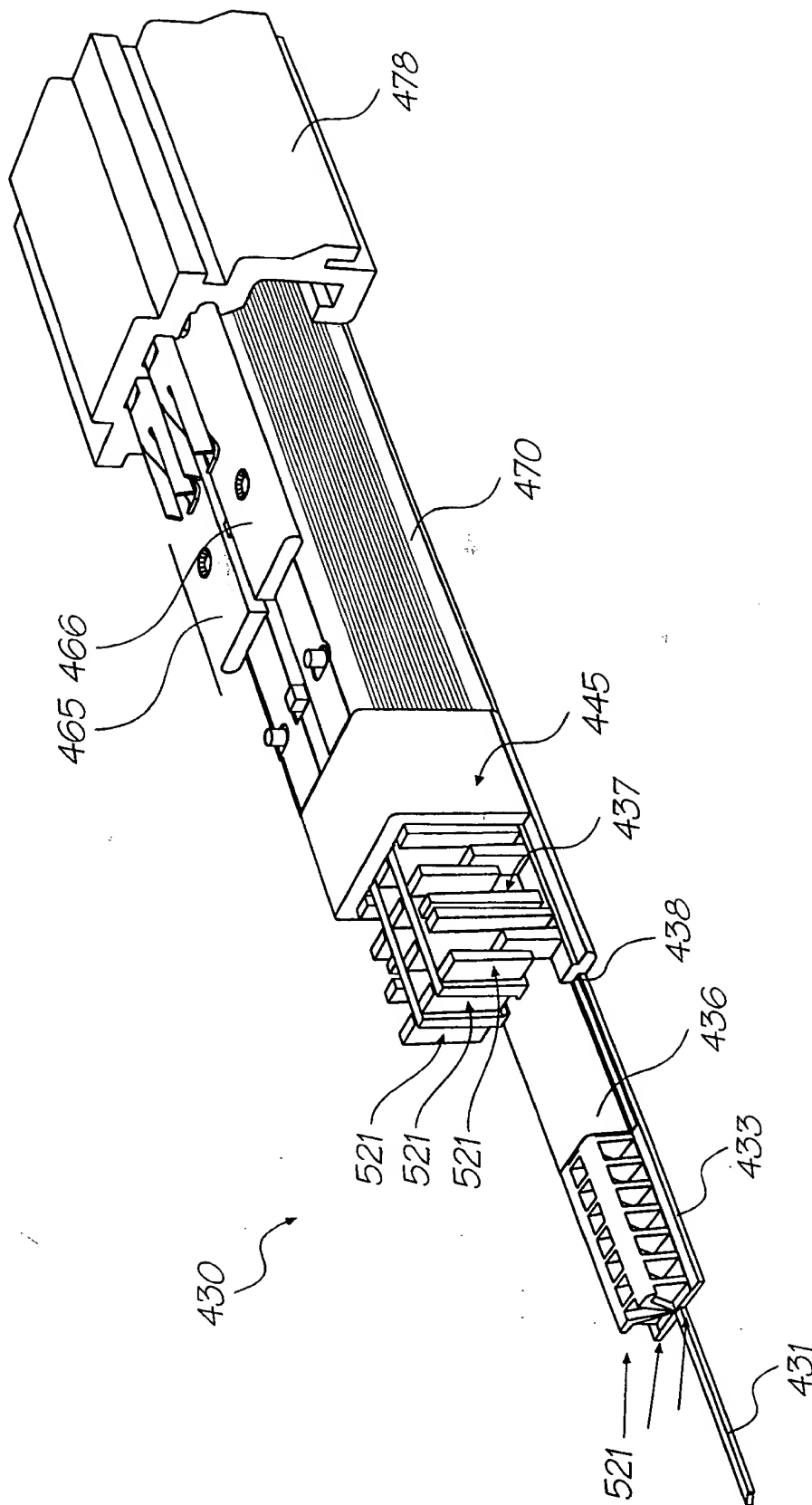


FIG. 97

TOTED 46220860

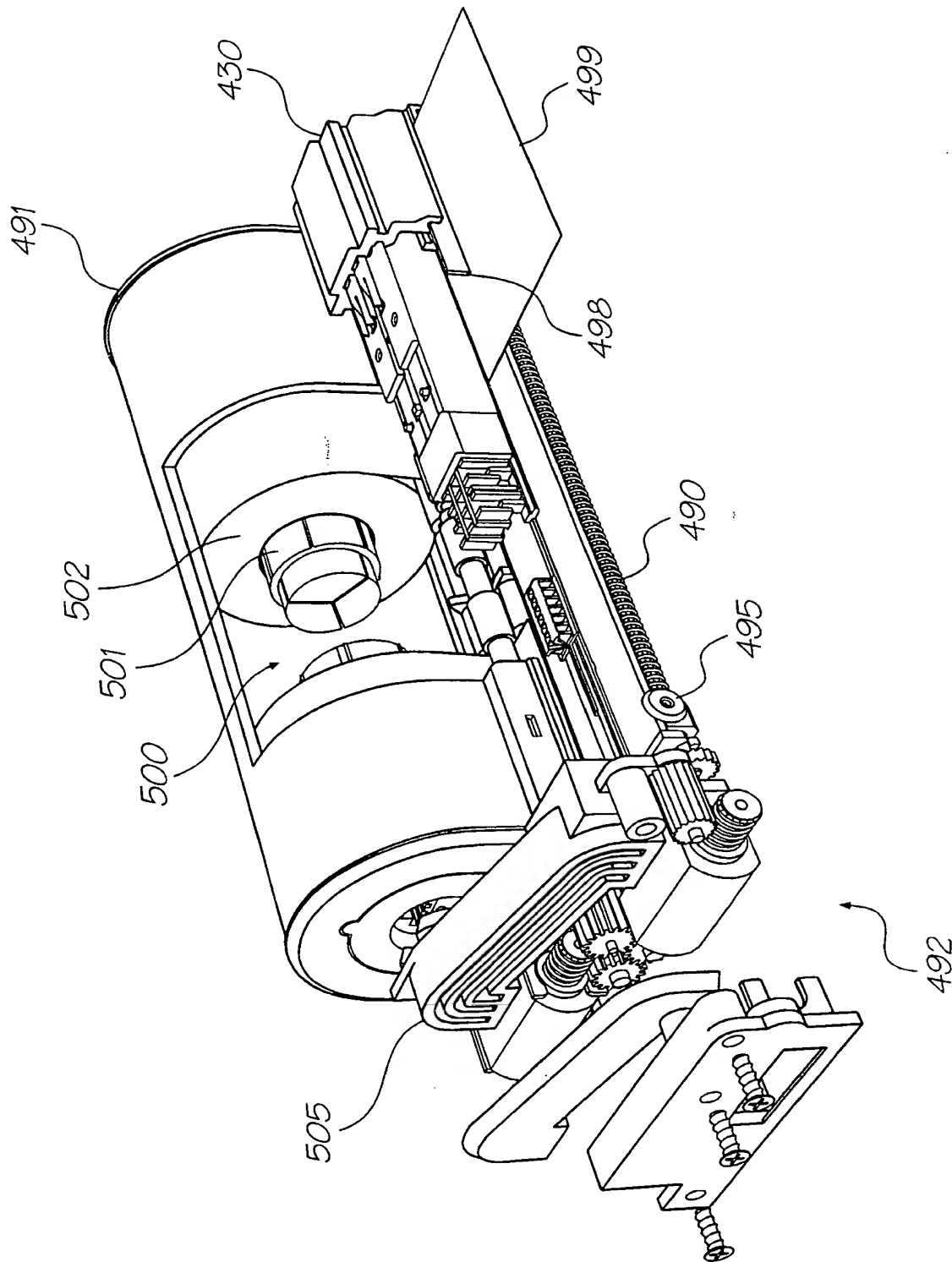
FIG. 98

APPROVED	O.G. FIG.
BY	CLASS/SUBCLAS.
DRAFTSMAN	

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PCT/AU99/00894

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APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

09/887297
PCT/AU99/00894

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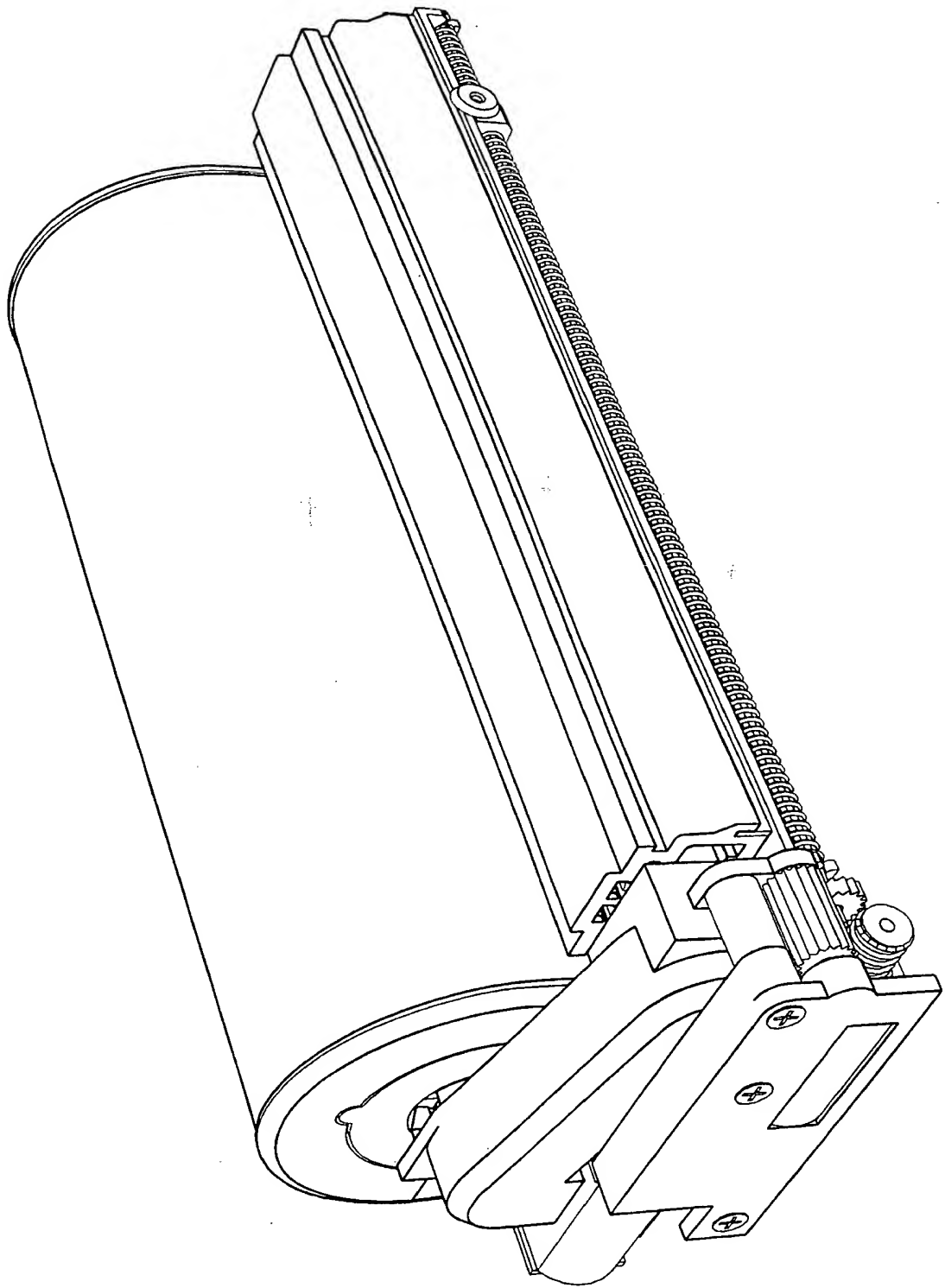


FIG. 99

FIG. 99

APPROVED BY	O.G. FIG.
	CLASS SUBCLAS
DRAFTSMAN	

WO 00/23279

09/807297
PCT/AU99/00894

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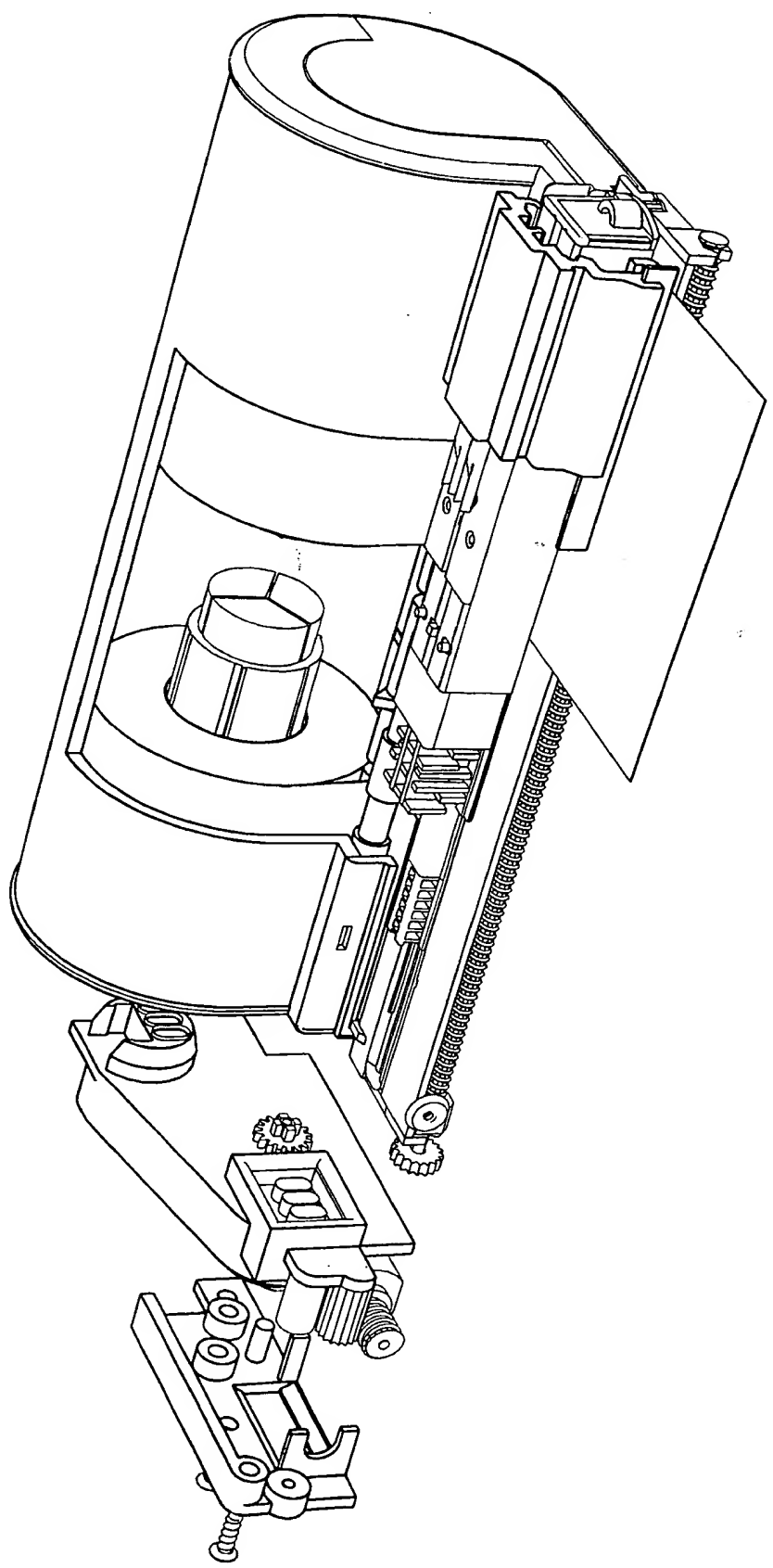


FIG. 100

FIG. 100

APPROVED BY	O.G. FIG.
	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

99/807297

PCT/AU99/00894

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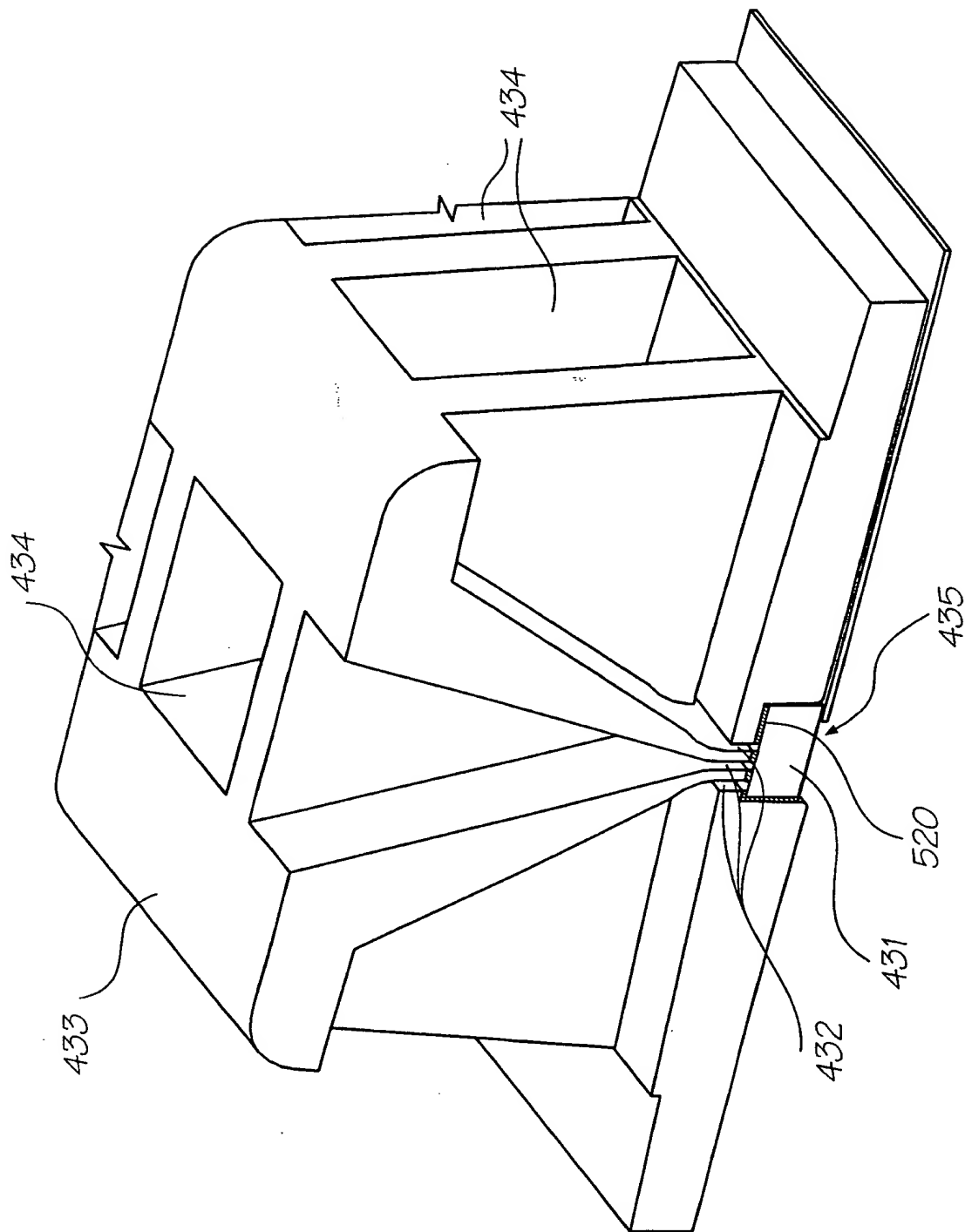


FIG. 101

FIG. 101

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

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PCT/AU99/00894

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552

550

550

554

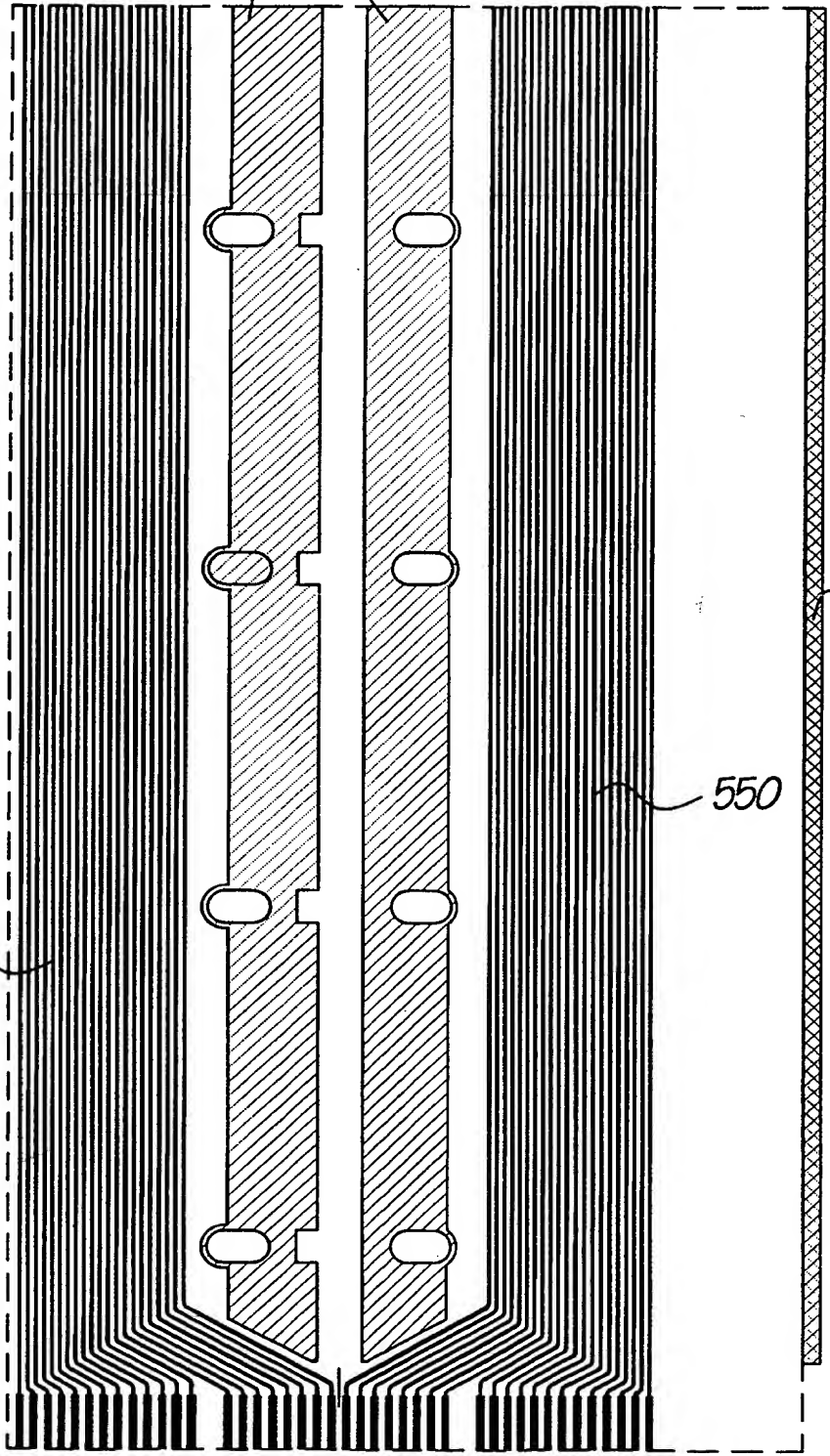


FIG. 102

FIG. 102

APPROVED	C.G. FIG.
	CLASS/SUBCLASS
BY	DRAFTSMAN

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PCT/AU99/00894

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FIG. 103

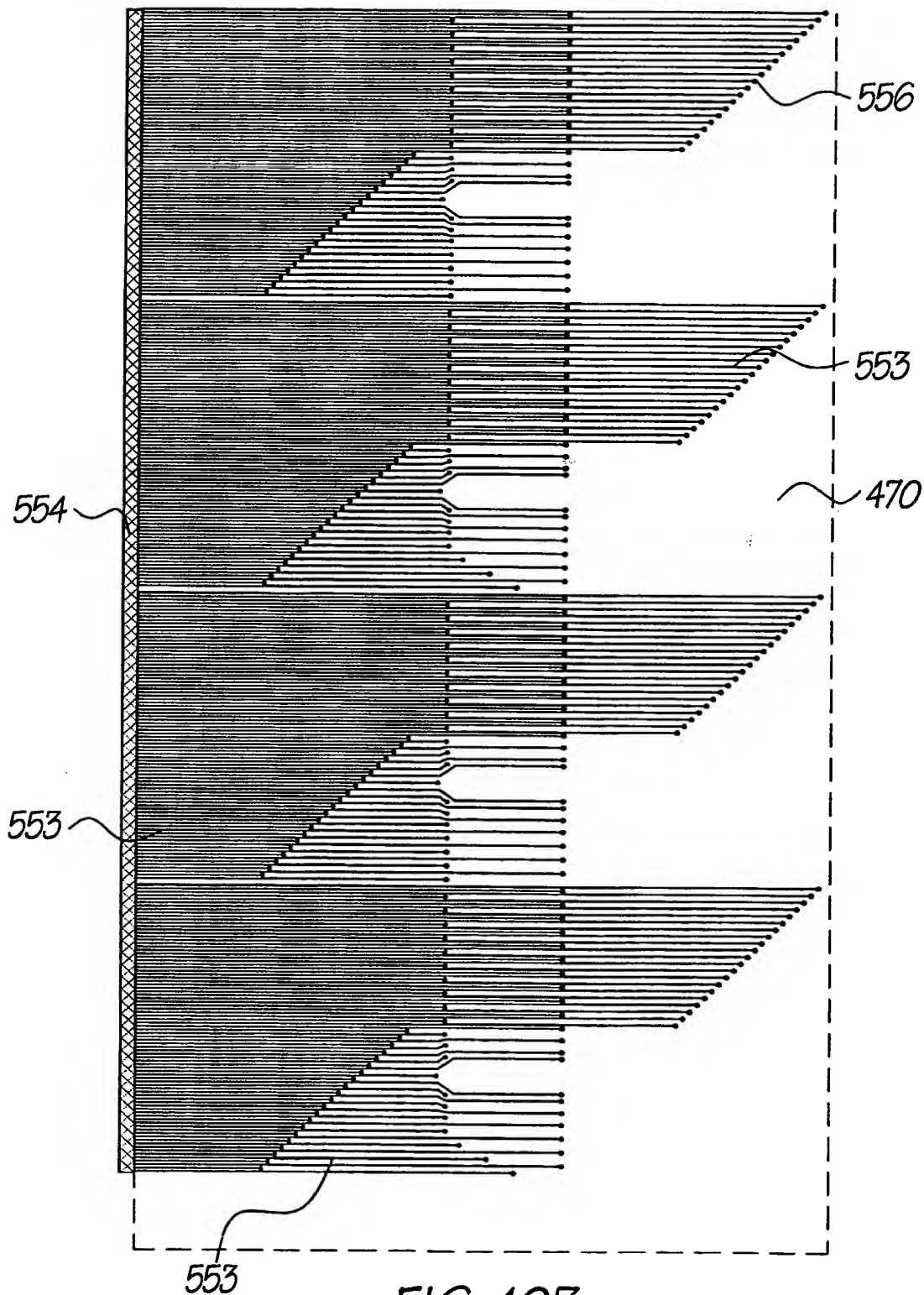


FIG. 103

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APPROVED	C.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

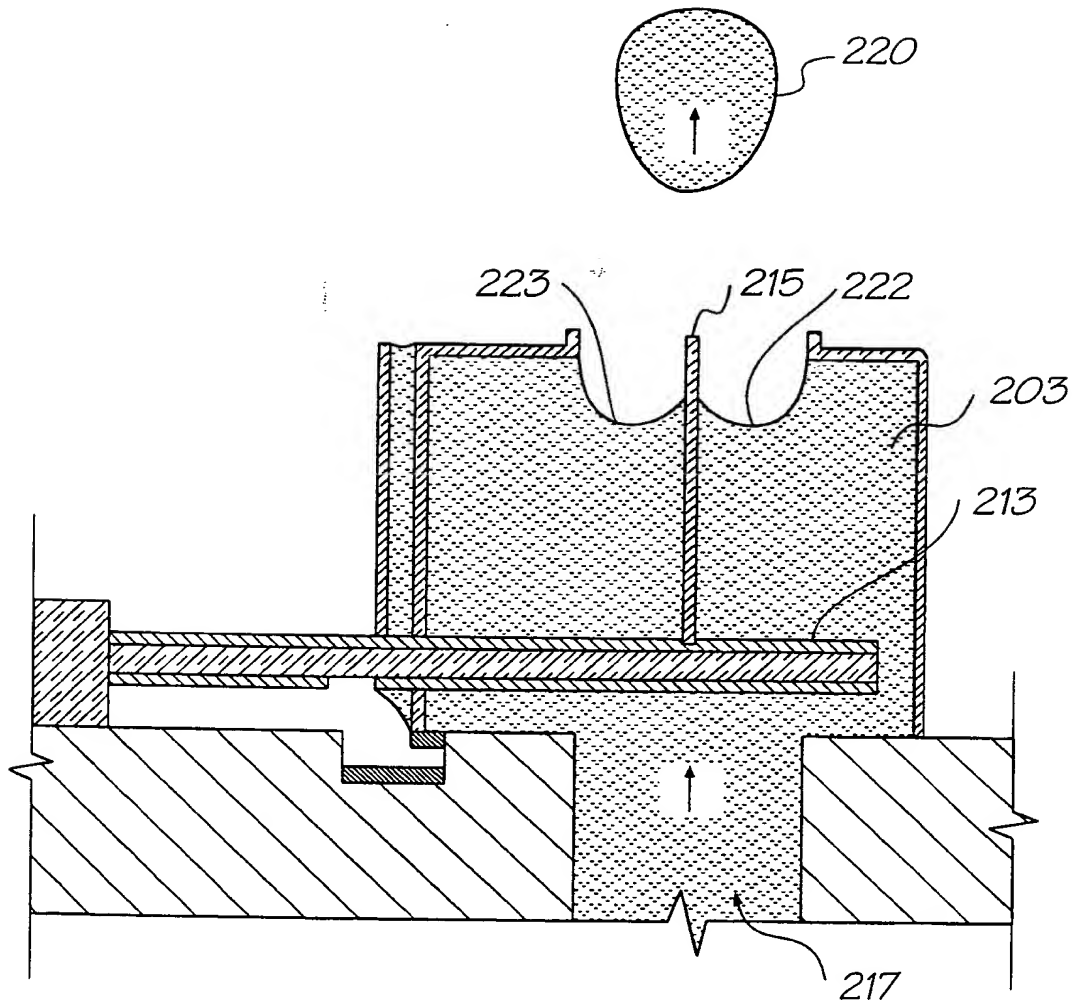


FIG. 106

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FIG. 107

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

WO 00/23279

PCT/AU99/00894

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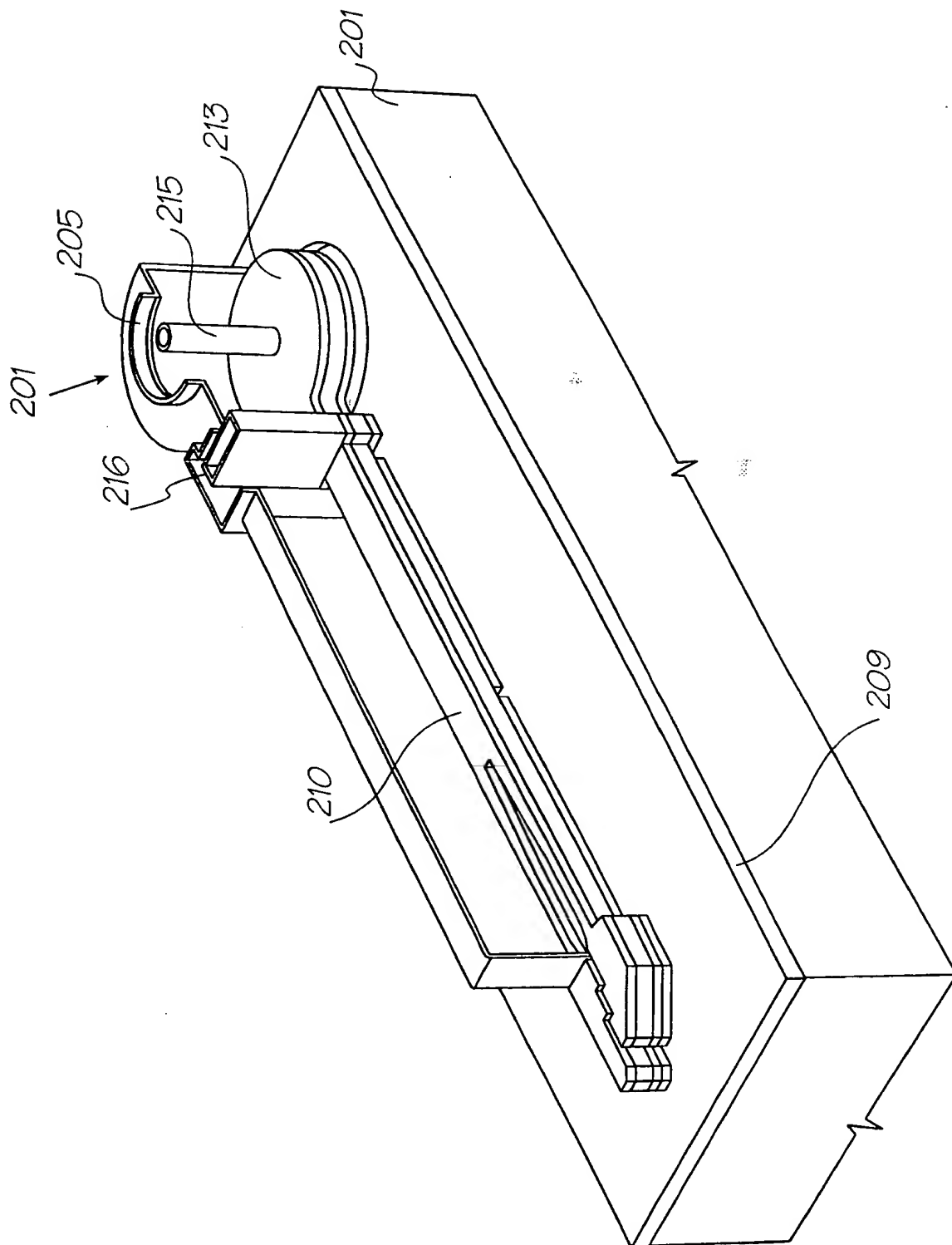


FIG. 107

FIG. 108

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
CRAFTSMAN	

WO 00/23279

PCT/AU99/00894

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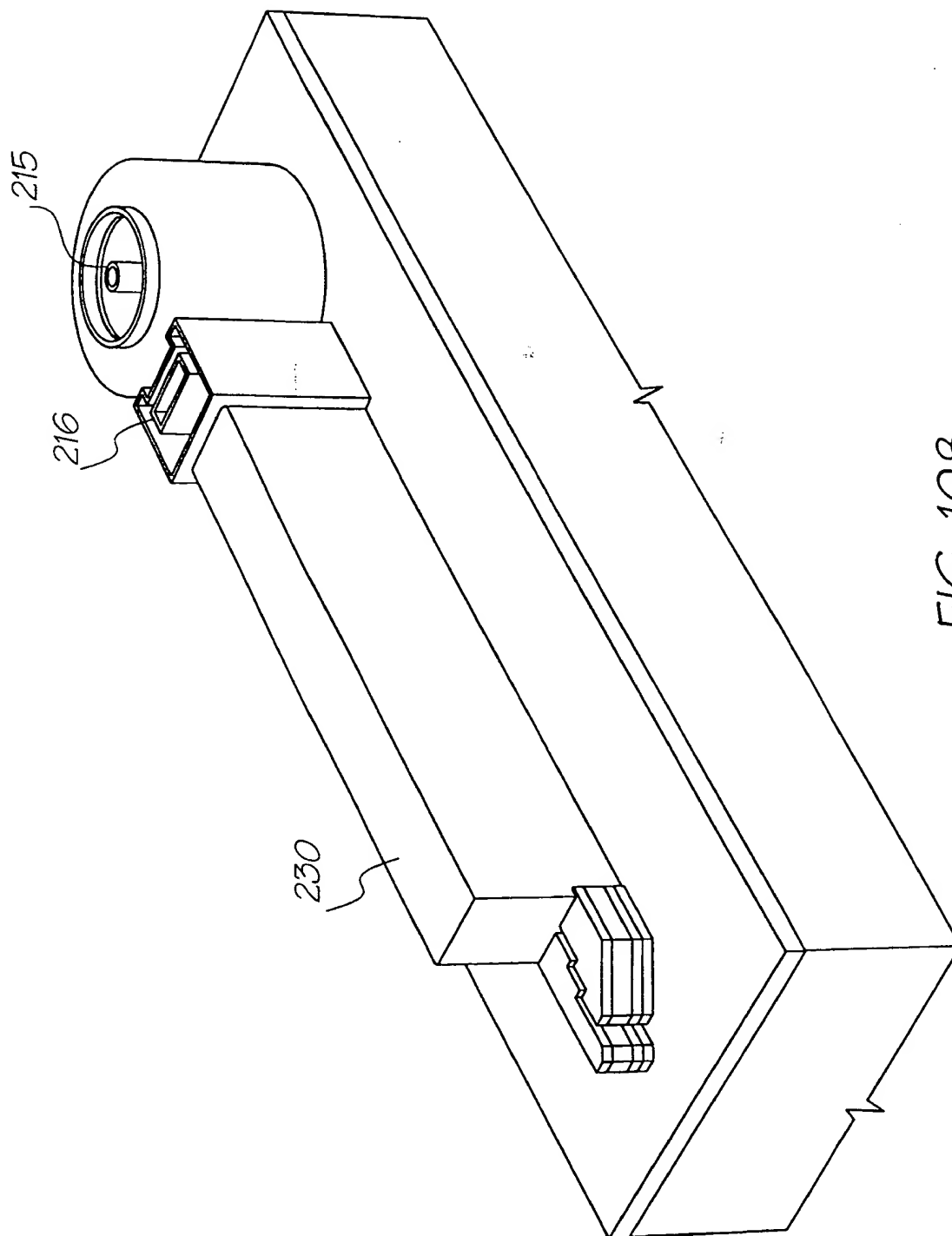


FIG. 108

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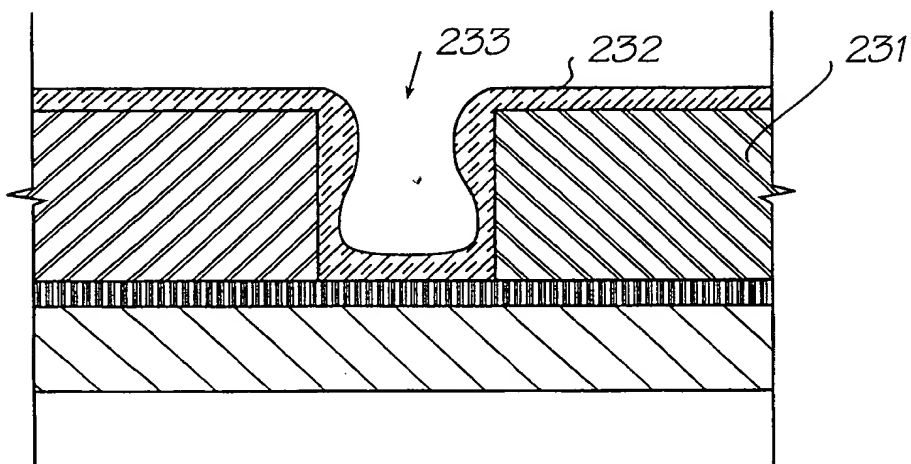


FIG. 109

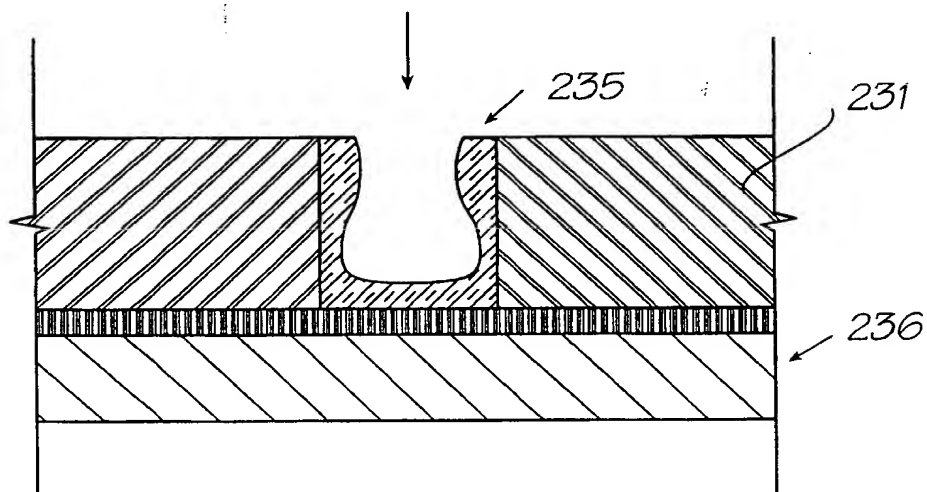


FIG. 110

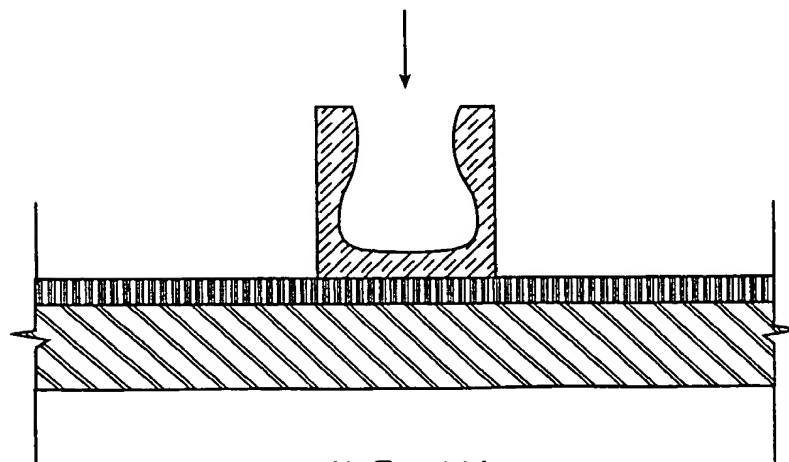


FIG. 111

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

FIG. 109